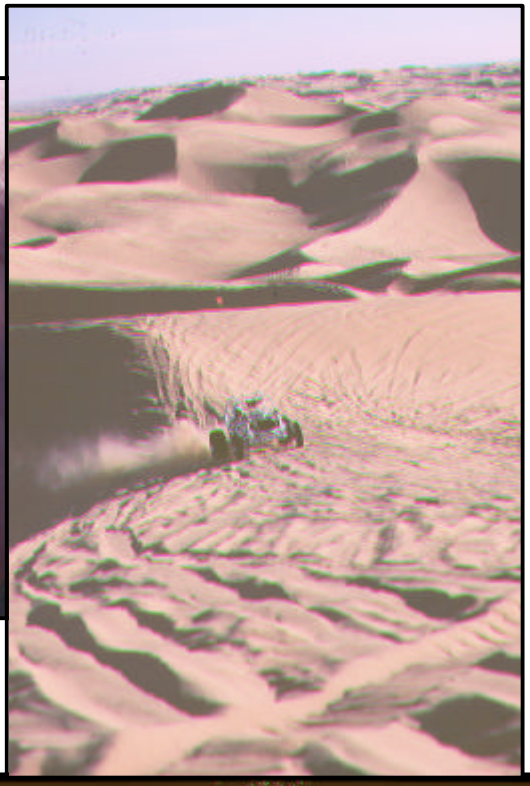
Bureau of Land Management,
Imperial Sand Dunes Recreation Area
Grant Application
2003



Please send comments to nhamada@ca.blm.gov.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Division of Off-Highway Motor Vehicle Recreation

APPLICATION FOR STATE OFF-HIGHWAY VEHICLE GRANT

See Manual for Instructions

PROJECT NUMBER:
State's Use Only OR

APPLICANT (Name and Address):

Title: BLM El Centro
Address: 1661 S. 4th St.
City: El Centro
State: CA Zip 92243

PROJECT TITLE (4 Words Maximum)

Imperial Sand Dunes O&M 2003

VEHICLE TYPE

☒ M/C ☒ ATV ☒ 4WD ☐ OSV ☒ DB

AMOUNT REQUESTED (Total Grant Amount)

$ 1,407,000 **(**round to $1,000)

NEAREST CITY:

Brawley, CA

COUNTY NUMBER (S)

80

COST BY SUB-ACTIVITIES (C&E):

Restoration	$ 312,000
Enforcement	$ 292,500
TOTAL C&E	$ 604,500

ENVIRONMENTAL DOCUMENTATION (Check):

☒ Complete

APPLICANTS AUTHORIZED REPRESENTATIVE AND CONTACT PERSONS (**TYPE DO NOT SIGN**)

1)	Greg Thomsen	Field Manager	760-337-4400
	Authorized Representative	Title	Phone Number
2)	Neil Hamada	Dunes Manager	760-337-4451
	Project Administration/Coordination Contact	Title	Phone Number

PROJECT DESCRIPTION (State specifically what you will do with the requested funds)

O&M funds for this project will provide continued services sustained in past O&M grants, with a concentration on law enforcement and monitoring to specifically address the issues identified by the public in the Imperial Sand Dunes Recreation Area (also known as Algodones Dunes). Funding will support the work of the Dunes Manager, Park Rangers, Rangers, Resource Specialists, and holiday assistance from other agencies. Contracts for trash collection, toilet maintenance, housing, and monitoring are requested as in past years. The cost of vehicles and travel are also included in the operation costs of the Dunes.

The undersigned understands and does hereby promise that soil survey/monitoring, wildlife habitat survey/management and OHV law enforcement programs/activities will be complete and/or implemented, as applicable, pursuant to Section **5090.53** of the Public Resources Code

I certify that this project conforms with appropriate land use plans, CEQA, and all other required environmental documentation

SIGNED: _____ _____
Authorized Representative Only **Date**

II. DESCRIPTION OF OHV OPPORTUNITIES

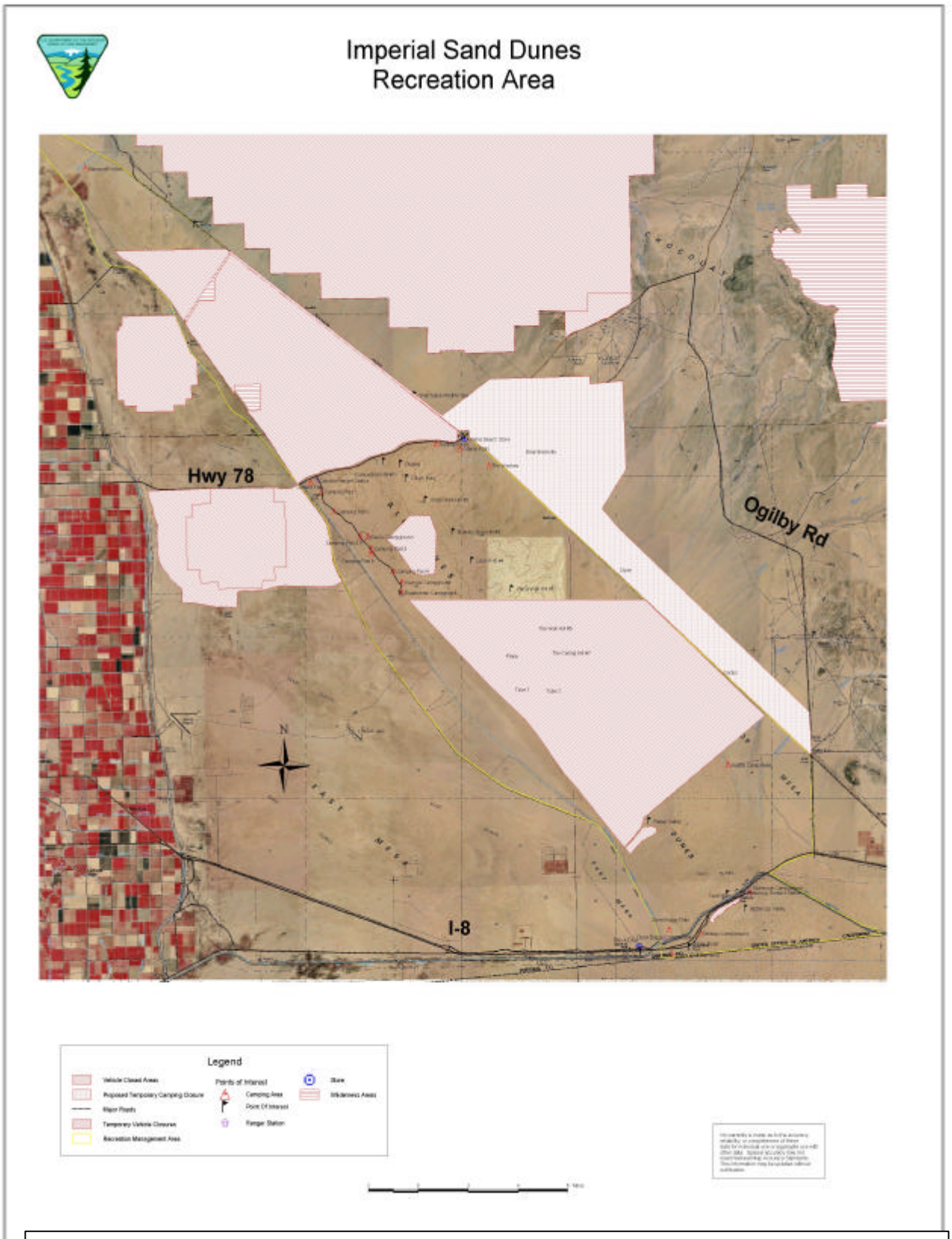


Figure 1 - MAP 1, Imperial Sand Dunes Recreation Area, light colored polygons are vehicle and camping closures. (see attached enlarged maps)

Description
The public lands managed by the BLM-El Centro Field Office (EFO) provide outstanding opportunities for Off-Highway Vehicle (OHV) recreation. The Imperial Sand Dunes Recreation Area (ISDRA), commonly called (Algodones Dunes or Glamis) is the premiere and most visited OHV recreation area in the California Desert Conservation Area. It is also considered the premiere OHV recreation area to Southern California region and vicinity because of the outstanding opportunities it presents for OHV recreation. In addition, the ISDRA provides unique habitat for several endemic and sensitive plant, insect and animal species.

The ISDRA is located in Imperial County, California, in southeastern California approximately 25 miles west of the Colorado River and immediately north of the border between the United States and Mexico. Access to the Imperial Sand Dunes is provided primarily by State Route 78 and Interstate 8 in the south. The City of Brawley is located 25 miles to the west and the City of El Centro 40 miles southwest.

The ISDRA encompasses approximately 150,000 acres of which 32,000 acres is designated as the North Algodones Dunes Wilderness. The wilderness area is closed to OHV recreation. In addition, 49,000 acres of the Imperial Sand Dunes are temporarily closed to OHV recreation, due to a negotiated court settlement agreement with the Center for Biological Diversity v. BLM (March 2001). There are 69,000 acres currently open for OHV recreation (see map 1).

The Mammoth Wash "open" area is the most remote OHV area within the ISDRA due to its northern location within the ISDRA. The Mammoth Wash "open" area is about five miles long and two miles wide and is accessed by the Glamis-Niland gravel county road. The distance from the pavement to the staging area is approximately 13 miles, and visitation is usually 0 to 5 campers with weekend and holiday visitation of about 40 OHV enthusiasts. Visitors to this area enjoy the remote location away from the intensively utilized areas of the ISDRA. During weekends during the use season (October-May), visitors tend to be residents from the nearby communities of Niland and Calipatria.

The North Algodones Dunes Wilderness is located between the Mammoth Wash "open" area and State Highway 78. A Watchable Wildlife site is conveniently located on the Glamis- Niland Road, two miles north of Highway 78. The site provides interpretive displays on the wildlife and habitat of the Algodones Dunes and provides an excellent staging area for hikes and school field trips. Located nearby is a trailhead with a sign-in sheet for visitor safety. Hikers into the wilderness can observe many indigenous plant and animal species such as the Pierson's milkvetch (*Astragalus magdalenae* var. *peirsonii*), fringe-toed lizard, or mule deer and other desert animals.

The Glamis / Gecko Area just south of Highway 78 is the most intensively utilized OHV area within the ISDRA. Gecko Road is the most developed area with numerous developed campgrounds and other facilities. Located along Gecko Road is Cahuilla Ranger Station, the headquarters for ISDRA and incident command center for dunes operations. Dispatch services and most of the personnel are based out of the Station. Other facilities along Gecko Road include: Gecko Campground; Keyhole Campground; Roadrunner Campground; six hardened camping pads; a vendor area; vault toilets; trash facilities; self-pay fee stations; kiosks; and public telephone.

The Glamis Area (eastside) is undeveloped with minimal facilities and provides for open desert camping. The main access into the Glamis Area is via the Wash Road adjacent to the Union Pacific (formerly Southern Pacific Rail Road). The improved Wash Road allows for safe and easy access to the camping area known as the "washes". The Glamis and Garbage Flats areas are open desert camping areas accessed

from Highway 78. ECFO provides trash facilities, law enforcement, emergency medical services, and holiday toilet facilities, with O&M funds.

The Dunebuggy Flats area is located in the southern portion of the ISDRA and is located north of Interstate 8. The main access into the area is via the Gordon's Well exit off Interstate 8. This is an intensive OHV area similar to the Glamis / Gecko area. Facilities located within this area include: kiosks, signs, trash facilities, self -pay fee stations; and a portable ranger station trailer staffed by ECFO staff on holiday weekends.

Figure 2 - Camping in the "Washes", south of Glamis, looking southwest.

The area west of the Coachella Canal and adjacent Gordons Well Road was closed (March 2002) to camping to protect the flat-tailed horned lizard (*Phrynosoma mcalli*) and its habitat. The closure was the result of a Biological Opinion that mitigates impacts of the Herman Schneider Memorial Bridge. The bridge opened in April 2001 and provides OHV access across the All American Canal and the shared use (OHV and Street-legal vehicles) of the Gordons Well overpass. This allows OHV enthusiasts legal access across Interstate 8 from the Buttercup Valley to the Dune Buggy Flats area. Prior to the bridge construction, there were illegal and dangerous OHV crossings across Interstate 8.

Located in the southeastern area of the ISDRA is the Ogilby Camp area. The access to this area is via the Olgilby Road and a dirt/sand road. This area is similar to Mammoth Wash and has no facilities, or services, except law enforcement patrols. Visitation is low to moderate with most use on weekends and holidays.

The Buttercup Area is located south of Interstate 8 and north of the international border with Mexico. The Gray's Well Road provides access to Buttercup, Midway, and the Plank Road camping areas. All three camping areas have vault toilets, and trash facilities. The Plank Road provides visitors a chance to observe an interesting part of California history. A metal protective barrier and interpretive signs surround the last remnants of the old wooden road that enabled vehicles to cross the Dunes in 1915. These areas are all within a 20-minute drive to Yuma, AZ, where there are shops and a hospital. The Mexico border town of Algodones is also nearby. Visitors can drive street vehicles, park, and then walk across the border to shop and eat. Adjacent to Greys Well Road is one of several areas closed to motorized vehicles to protecting sensitive species. This area, however, is open to visitors wishing to explore the flora and fauna of the area on foot.

OHV opportunities near the Dunes are limited to existing trail and routes. There is a network of trails east of the Dunes that extend to the Colorado River and north to Interstate 10. There are several Wilderness Areas and military closurses that limit access to some area. There is very little OHV opportunity directly west of the Dunes in the East Mesa. The cities of Brawley, Imperial, Holtville, and El Centro lie west of the East Mesa. On the far western side of the valley lie the Ocotillo Wells SVRA, Plaster City and Superstition Mtns. Open Areas and limited use areas around them.

Visitor Demand

The ISDRA is located within a three-hour drive from Los Angeles, Orange County, Riverside, San Diego, and Phoenix. The ISDRA is a highly valued and unique recreation resource within the southwestern United States for two reasons: (1) it is a sand dune ecosystem of a size and height unparalleled, and (2) it fills a unique and valued niche for providing the largest acreage of dunes opportunities in the United States. The ISDRA has far more acreage that the 10 other dune areas that are located within 1,500 miles.

Continued population growth in southern California, the expanding popularity of OHV recreation (108% increase since 1980 in California), and a 48% decrease in the acres available to OHV recreation in the California Desert, has resulted in a steady increase in visitation at the ISDRA. Due to the increased demand for OHV recreation there has been a need for increased law enforcement. There have been many serious incidents and issues that need to be addressed.

Figure 3 - Crowds at Oldsmobile Hill

Annual visitation in fiscal year 2001 was estimated at 1.4 million visitors with peak visitation between October-April. The highest visitation at the ISDRA occurred during the six major holiday weekends that include: Halloween, Thanksgiving, Christmas/New Year, Martin Luther King, President's Day and Easter. The visitation estimates for the major holiday weekends often exceed 100,000 visitors. In fact, last year's visitation during the Thanksgiving weekend was estimated at about 240,000 visitors.

The ISDRA provides for many types of recreational experiences with OHV recreation as the dominant activity. OHV enthusiasts who visit the ISDRA on holidays weekends will experience large crowds, noise, and intensive 24-hour OHV activity, such as Glamis / Gecko, Dunebuggy Flats and Buttercup. There are other locations within the ISDRA where OHV recreation is less intense and visitors can experience a semi-primitive motorized experience such as Mammoth Wash or the Oligby area. But the majority of the opportunity lies within a range of recreational settings from highly modified environments with numerous contacts with other people to undisturbed natural environments with little or no contact with others.

The ISDRA is managed to provide both non-motorized and motorized recreational opportunities to area residents and visitors. In addition to OHV recreation, the ISDRA provides other recreational opportunities including hiking, horse back riding, wildlife and scenery viewing, picnicking, photography, nature study and environmental education, camping, sightseeing and driving for pleasure. The ISDRA also provide a social experience. It provides wide-open spaces where enthusiasts can seek solitude or a substantially modified natural environment with facilities for highly intensified motorized recreation use experience.

Vehicle Types
The types of vehicles that are utilized at the ISDRA include all both off road and street-legal vehicles. The vehicle types that can be found at the ISDRA include: sand rails, dune buggies all-terrain vehicles, motorcycles, 4WD pickups, 2-WD pickups, sport utility vehicles and custom built off road vehicles.

Volunteer Programs
The ECFO staff have developed an in-depth volunteer program to support operations of the ISDRA. The volunteer program has been developed over many years of cooperation between the ECFO staff, representatives from organized OHV groups and other interested ISDRA stakeholders. There are currently five organized groups and dedicated individuals that provide volunteer support at the ISDRA. The groups are: the ISDRA Technical Review Team (TRT); the Volunteer Dunes Patrol; the Junior Ranger Program; American Sand Association volunteers, and the Imperial County Aero squadron. These programs are discussed in more detail in section III.

Long-Term Use
The following is a list of issues that were raised in 2001 as part of the development of the new Recreation Area Management Plan (RAMP) that will be developed by contract for the Dunes. These issues will be addressed and analyzed in the RMP.

1. How will the BLM conserve the unique natural resources of the Imperial Sand Dunes as well as protect Federal and State listed species under the Endangered Species Act in an area managed for OHV use?

   The Endangered Species Act of 1973 and The California Endangered Species Act provide for protection of all federal or state listed species on lands in the state of California. BLM must comply with these laws when it considers authorizing any use of public lands. The Algodones Dunes is home to six rare plants: one Federal Threatened/State Endangered species, one State Endangered/BLM Species of Concern, two additional BLM Species of Concern, and two State Rare species. These plants are also considered by the California Native Plant Society to be rare. These six species are also endemic to the Algodones Dunes; in fact, the Algodones Dunes is home to the highest number of endemic plant species of any sand dune system in North America.

   Approximately 25% of the habitat, the North Algodones Dunes Wilderness, is closed to OHV use. Recent monitoring has shown that the best habitat and highest plant densities occur roughly in the area that was originally WSA 362. This area was recently temporarily closed to OHV use.

   Cultural Resources – The following is the original text form the list of issues:

> "A preliminary records review shows that less than 1% of the area has been inventoried. Although this inventory data is not sufficient for managing the ISDRA, it does clearly demonstrate that the area contains archaeological resources.
>
> Incidental site recordation - mostly from community college class projects in the 1970s and 1980s, indicate that parts of the ISDRA have the highest density of prehistoric sites in the El Centro Resource Area. Prehistoric site types include rock rings for houses and spiritual activities, trails and trail shrines, camps, and tool scatters. There area also has geoglyphs - fragile ground art designs unique to this part of California.
>
> Most of the historic and prehistoric sites in the ISDRA probably occur adjacent to the dunes, but there are also some sites actually within the dunes. Important travel routes crossed the dunes and they were an important source of foods. The bases of the dunes are also sources of water. Intuitively, it would seem that dune areas would be too disturbed or tumbled to have information value, but incidental finds have shown that sites exist within the dunes themselves.
>
> An inventory plan based on sample survey would probably be sufficient to understand the site potential of these areas, but complete inventory is needed for the dune valleys, stable dunes, and desert pavement areas adjacent to the dunes. All these areas are undergoing impacts from OHV activities, but the BLM has insufficient cultural resources information to manage use.
>
> The State Historic Preservation Officer will need to approve any sample survey strategy if the BLM desires to do less than a 100% survey."

Since these issue statements were written there has been additional information collected:

CULTURAL HISTORY

The Imperial Sand Dunes have played a significant role in shaping the human history of the Imperial Valley. Located west of the Lower Colorado River, the ISDRA is a unique landscape in Southern California and northeast Baja California. The ISDRA is within or near the traditional lands of the Cahuilla, Chemehuevi, Cocopah, Kamia, Kumeyaay, Mohave and Quechan. The sand dunes are a part of the sacred world for these contemporary tribes. The dunes are a part of their religious and secular history. They contain burial and cremation areas and trail crossings. They offer a variety of resources, such as plants for foods and medicine, and animals for hunting. These tribes advocate protective management of the natural and cultural environment of the dunes. In early historic times, the dunes would become thought of, not as a resource, but as a barrier to be avoided by the Spanish explorers, like De Anza and Garces, and the American pioneers moving west along the southern emigrant trail. Thus the traildropped south of the Mexican border to avoid the dunes. It was also a barrier to the expanding railroad network, which diverted the 1877 line north through MammothWash to reach the west coast. In the twentieth century the Imperial Sand Dunes continued to be a barrier to be conquered. The dunes figured prominently as part of the heroic struggle to tame theColorado River. An eminent auto enthusiast, named Colonel Ed Fletcher, built a plank road just to demonstrate that the dunes could be traversed by automobile. (The Plank Road has been designated an Area of Critical Environmental Concern. The Plank Road was determined eligible for the National Register of Historic Places in 1986 and nominated for inclusion in 2001.) This travel route would later be paved and used by families of migrant workers escaping the dust storms of Oklahoma and Arkansas. These same workers also helped to excavate a large channel known as the All American Canal, which was cut through the dunes to

convey water from the Colorado River to the agricultural fields of the Imperial Valley. (The All-American Canal has been determined to be eligible for inclusion to the National Register of Historic Places.) Soon the entertainment industry discovered the unique scenery of the dunes and they became the backdrop for major Hollywood movies, like Beau Gueste and a Bob Hope and Bing Crosby classic movie called the Road to Zanzibar. The dunes have also been used for television commercials, and both commercial and artistic photography. During World War II, Generals George S. Patton Jr. and Walton Walker were instrumental in developing a facility to train U. S. troops for the North African Theater. The Desert Training Center/California-Arizona Maneuver Area (1942-1944) spanned from Searchlight, Nevada south through eastern California and western Arizona to the U. S./Mexico International Border. The Imperial Sand Dunes offered a unique training environment for combat maneuvers.

Finally, the recreational use of the dunes also has historical roots beginning with local families who would travel to the dunes to drive the plank road and have a Sunday picnic. The dunes also became a place for families to camp and try out, or develop, new machines for driving in the sand. A milestone in the evolution of OHV use came after World War II when surplus Jeeps were available for purchase by the private sector. The Imperial Sand Dunes is also believed to be the birthing place for the early dune buggies. Model A cars with their bodies removed were some of the first buggies attempting the challenges of the sand dunes. Multiple generations of families have loyally followed this tradition, flocking to the dunes to recreate and socialize several times a year. Thus a social culture, unique to the dunes, has developed and will evolve as new generations of families continue to observe their family traditions.

CULTURAL RESOURCE GOALS

The primary goal for cultural resource management within the planning area is to conserve and preserve selected cultural resources, and the cultural landscape, to the greatest extent possible, while providing for other uses for the ISDRA. A cultural landscape assessment indicates that the Native American tribes whose traditional territory included or were adjacent to the dunes have maintained a strong connection with the dunes and generally view the landscape as significant. Another cultural resource goal of the Draft Ramp is to manage the recreational use of the ISDRA to reduce impacts to the environment and cultural landscape. Cultural resources in the management area represent both prehistoric and historic eras. The planning area includes about 200,000 acres, of which about 5% will be inventoried for this planning process. Known prehistoric sites are dominated by ceramic scatters and lithic scatters, but trails, rock enclosures, and temporary camps have been reported. Key historic resources include remnants of the Plank Road, All American Canal, and Coachella Canal, all of which are National Register of Historic Places properties. Other recorded historic era resources include railroad construction camps and communities like Ogilby, Glamis, and Acolita; camps related to construction of water systems; and camps and activity areas related to the World War II Desert Training Center.

A Class II archaeological survey of the Imperial Sand Dunes was proposed to supplement an ongoing Cultural Landscape investigation and to assist the Bureau of Land Management in revising its Land Use Management Plan for the dunes. A stratified, random sampling approach was utilized and three sampling strata were

identified: high dunes, dune pans, and dune edges. All strata were sampled using three long, cross-dunes transects, which yielded a sample of approximately three percent. Additional sampling of the dune pan and dune edge strata was undertaken utilizing 400 by 400 meter quadrats. All potential cross-dune transects and quadrats were given numbers, then the sample was selected using a random number table. The overall goal was to achieve at least a 5 percent sample of the Imperial Dunes, inclusive of previous systematic survey; this goal was exceeded.

Two hundred and eighty sites and isolates had been reviously recorded in the vicinity of the dunes over the years. Ceramic scatters or pot drops are the dominant site type in the vicinity and nearly the only site type recorded in the dunes *per se.* Four additional archaeological sites (3 prehistoric and 1 historic) and 2 isolated finds were recorded during the pedestrian survey within the dunes. None of these archaeological resources are viewed as significant based on criteria of the National Register of Historic Places. Our findings and those of previous researchers, tend to support the notion that prehistoric peoples did not extensively utilize the fast moving dunes. The small playas within the dunes and the dune edges apparently held some attraction, possibly grass seeds or other plant resources.

2.How can air quality standards in the Imperial Sand Dunes be met?

Air Quality: The Glamis area has intermittently poor air quality resulting from smog and agricultural burning in the nearby Imperial and Mexicali Valleys. The planning area is located within Imperial County, which is entirely non-attainment for ozone, and partially a non-attainment area for PM-10. This situation is exacerbated on holiday weekends in the fall and winter. At these times large numbers of OHV and motorhomes arrive in the Glamis area creating extensive quantities (large clouds) of airborne dust particles and hydrocarbon emissions.

3. At what levels are noxious weeds occurring within the Imperial Sand Dunes planning area and what measures can be taken to reduce or eliminate infestations.

Noxious and Invasive Species: The area has scattered infestations of saltcedar (*Tamarix ramosissima*), sahara mustard (*Brassica tournefortii*), *Bromus* and extensive areas of *Schismus barbatus.*

4. What level or levels of recreation setting can or will be provided at the Imperial Sand Dunes Recreation Area?

The Imperial Sand Dunes Recreation Area can provide a wide variety of outdoor settings. Currently the majority of the area is in undeveloped setting where recreationists can engage in activities not dependent on facilities and experience a moderate level of self-reliance and risk. Natural resources in these areas have not been modified to accommodate human use. There are currently no Recreation Opportunity Spectrum (ROS) guidelines that direct the development of any of the areas associated with the ISDRA. Public opinion varies as to what range of settings should be accommodated at the ISDRA.

5. How will OHV recreation be managed in relation to resources and other recreationists, including safety?

Both advocates and opponents of OHV use are concerned about how to manage this activity to minimize impacts on other resources and to be compatible with other recreationists. The concern focuses around the issues of safety resulting from use of controlled substances by individuals who come to the dunes to party but may not own an OHV, crowding in some OHV areas, saving camp spots, dumping of grey water and litter. There are also concerns with quiet times, camp area speed limits and general unruliness of some dunes users. Finally, there is a broad-based concern about the potential adverse affects of OHVs on plants, wildlife, geologic resources and other elements of the ISDRA environment.

Federal regulation (43 CFR, 8340.0-2) directs the BLM to protect the resources of the public lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands.

Responsiveness of the alternatives to this issue can be evaluated by comparing the acres open to OHV use; motorized use camping restrictions, campground quiet hours, levels of law enforcement presence and reservation systems.

6. How will education, law enforcement, and other techniques be used to ensure compliance at the ISDRA? (Especially with respect to illegal use of alcohol, drugs and firearms)

Both BLM and visitors to the ISDRA are concerned about the current situation that exists. An ever-increasing population, during the use season, has created larger crowds in the camping and riding areas. Along with this there seems to be an increase in a certain element of the visitors with the belief that they can do whatever they want without regard to the consequences to themselves or others. From this, the need to develop an educational program was identified aimed at raising the level of awareness of the rules, regulations, and safety concerns. The need to develop better ways of disseminating that information to the visitor through the use of the Internet and partnerships with the various user groups and businesses that focus on the dunes was also identified.

How will the Bureau increase the level of enforcement directed at large crowds like the ones at Competition Hill, to enforce laws related to driving under the influence (DUIs), illegal drugs, assaults, etc., without greatly impacting the quality of use currently enjoyed by the majority of the visiting public. Much of the lawless behavior is occurring from younger adults and juveniles who access the area in two wheel drive vehicles. Many times, they are not considered part of the duning community. They are at the Imperial Sand Dunes to be part of a group that frequents the area to seek the party atmosphere.

And finally, the need to identify other options available to aid in the implementation of the education and enforcement process. Avenues like visitor involvement, alternative forms of punishment for certain violations and crowd size limitations could be considered.

Federal regulation (43CFR. 8340.0_2) directs BLM to protect the resources of the public lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands.

Responsiveness of the alternatives to this issue can be evaluated by comparing the existing level of education provided, the number of enforcement personnel (BLM and other assisting agencies); the level of understanding of the rules and regulations, increased crowd size on holiday and off holiday weekends, the growing shift in the type and seriousness of violations, and enforcement statistics from past years.

7. How much facility development and access is appropriate for the Imperial Sand Dunes Recreation Area?

This issue will discuss the suitability of the area to accommodate additional camp pads, contact stations, roads, etc. General and specific change or expansion of existing facilities will also derive from addressing issue #1. Facility construction and maintenance is expensive, especially considering the environmental factors of high heat and blowing sand.

8. How often, where and what should vendors/concessionaires be allowed to vend on public land in the ISDRA to best serve the needs of the public?

This issue will drive alternatives that detail the vendor program at the Imperial Sand Dunes. Historically, vendors and concessionaires have supported OHV use. To what extent should this continue? Are some uses inappropriate? What is the scope of wares and services that should be allowed on public lands. Where and how should such use be managed?

9. How much impact are the tour buses having on the facilities at the ISDRA and should there be compensation for that use?

BLM staff has recognized the high level of visitation to ISDRA by commercial tour buses. Since the reconstruction of the Osborne Overlook access road and the installation of the pit toilets at the Buttercup Campground, several commercial tour bus companies regularly stop and utilize the facilities. Identification of these companies is difficult due to staffing levels and uncontrolled access to the Recreation Area. Both areas are BLM managed and maintained roads with commercial vehicle weight limits. It is undetermined if the tour bus traffic significantly increases the level of maintenance and repairs required for the roads and restrooms. It is also undetermined if there are any recreational or resource conflicts.

Title 43 CFR Parts 2930 and 8370 Permits for Recreation on Public Lands allows the BLM to issue permits in order to manage recreational use, reduce recreational and resource conflicts, and to receive a return for commercial uses on public lands.

10. What level of education and resource interpretation should be provided at the ISDRA?

    This issue will develop alternatives that help to define what type of interpretive materials (signs, brochures, etc) should be available to the public to better educate and communicate to them on the critical resources/regulations of the ISDRA.

11. What is considered to be the Carrying Capacity at the ISDRA, is it being exceeded and if so, what actions should be taken?

    This issue will develop alternatives that will attempt to address the number of visitors that are coming to the Imperial Sand Dunes based on the Desired Future Condition and Level of Acceptable Change and in what areas, if any, that the two are inconsistent.

12. How much motorized trespass is occurring in the North Algodones Dunes Wilderness, what impacts are occurring and how can it be eliminated?

    Motorized trespass continues inside the Wilderness, but it is not known at what levels. This issue will look at what areas are being used to illegally enter the wilderness and at what levels it is occurring. Several options to stop illegal motorized trespass will be looked at.

13. What management prescriptions should be utilized for legal motorized access afforded the Border Patrol, California Department of Fish and Game and law enforcement agencies to the North Algodones Dunes Wilderness?

    The enabling legislation that designated the North Algodones Dunes Wilderness Area was the California Desert Protection Act(CDPA). This Act allowed for continued motorized use by California Fish and Game to monitor and maintain their wildlife guzzlers inside the wilderness. The CDPA also allows U.S. Border Patrol (USBP) to continue their border operations inside wilderness. Although these uses are allowed, they have an impact on the wilderness values of solitude and naturalness. This issue will discuss at what levels these uses will be allowed and how the impacts can be mitigated, while accomplishing the goals of all agencies involved.

14. What is the future for the Fee Demo program?

    The Fee Demo Program began in the Dunes on Jan 1, 1999. There has been controversy over the program since its inception. Responding to public criticism, the BLM entered into a memorandum of understanding (MOU) with the California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division, and the California Off-Highway Motor Vehicle Recreation Commission.

One of the items this MOU created was a technical review team (TRT) to make recommendations on how the collected funds should be spent in the Dunes.

The federal appropriations bill approved May 17th, 2000 by the U.S. House of Representatives subcommittee extends the Fee Demo test program through fiscal year 2002. This is the fourth extension of the original expiration date. It is unknown at this time how many more times it will be extended or if it will become permanent legislation. The future of the entire Fee Demo Program across the U.S., including the Dunes, depends upon the continued re-authorization of this legislation by Congress.

Alternative methods for collecting fees will be analyzed. Currently, collections are being made via a contractor on a sliding scale of commission. Cost analysis will be completed to determine if this is the most cost effective course for the government to continue or if there are more efficient and effective ways to collect the fees at the Imperial Sand Dunes Recreation Area.

15. How will priorities be set with anticipated budget reductions from "green sticker" and allocated dollars?

Partnerships, in past years, with the State of California Off-Highway Vehicle Commission and Division have provided a substantial amount of support to the Imperial Sand Dunes. Current regulations are making those dollars increasingly more difficult to obtain causing concern for future programs at the Imperial Sand Dunes. This alternative will look at creative financing solutions for those programs and/or development projects that warrant continuation and ways to determine which programs/projects are carried forward.

Center for Biological Diversity v. Bureau of Land Management

On March 16, 2000, the Center for Biological Diversity, and others (Center) filed for injunctive relief in U.S. District Court, Northern District of California (court) against the Bureau of Land Management (BLM) alleging that the BLM was in violation of Section 7 of the Endangered Species Act (ESA) by failing to enter into formal consultation with the U.S. Fish and Wildlife Service (FWS) on the effects of adoption of the California Desert Conservation Area Plan (CDCA Plan), as amended, upon threatened and endangered species. On August 25, 2000, the BLM acknowledged through a court stipulation that activities authorized, permitted, or allowed under CDCA Plan may adversely affect threatened and endangered species, and that the BLM is required to consult with the FWS to insure that adoption and implementation of the CDCA Plan is not likely to jeopardize the continued existence of threatened and endangered species or to result in the destruction or adverse modification of critical habitat of listed species.

Although BLM has received biological opinions on selected activities, consultation on the overall CDCA Plan is necessary to address the cumulative effects of all the activities authorized by the CDCA Plan. Consultation on the overall Plan is complex and the completion date is uncertain. Absent consultation on the entire Plan, the impacts of individual activities, when added together with the impacts of other activities in the desert are not known. The BLM entered into negotiations with plaintiffs regarding interim actions to be taken to provide protection for endangered and threatened species pending

completion of the consultation on the CDCA Plan. Agreement on these interim actions avoided litigation of plaintiffs' request for injunctive relief and the threat of an injunction prohibiting all activities authorized under the Plan. These interim agreements have allowed BLM to continue to authorize appropriate levels of activities throughout the planning area during the lengthy consultation process while providing appropriate protection to the desert tortoise and other listed species in the short term. By taking interim actions as allowed under 43 CFR Part 8364.1, BLM contributes to the conservation of endangered and threatened species in accordance with 7 (a) (1) of the ESA. BLM also avoids making any irreversible or irretrievable commitment of resources that would foreclose any reasonable and prudent alternative measures that might be required as a result of the consultation on the CDCA plan in accordance with 7 (d) of the ESA. On November 3, 2000, the stipulation respecting Peirson's milk-vetch became effective.

Facilities Schedule-
The ISDRA is open all year, 365 days and 24 hours a day. Cahuilla Ranger Station is open from Friday – Sunday from October through the end of May as staffing allows. Regular hours of operation are 8am – 4:30pm, with extended hours and days during the high use periods.

III. O & M DELIVERABLES

Facility Repair and Servicing
Vault toilet pumping
A toilet-pumping contract was awarded to *Al Max Sanitation* out of San Diego in 2001. Since the installation of the new toilets, the use has gone up dramatically. This has increased the need for more frequent pumping of the units in order to properly maintain them. Vault toilet pumping for the 33 units will occur as needed during the season.

Vault toilet cleaning – A new contract was awarded to the *Yuma Work Center* for the cleaning of the existing 33 vault toilets. This new contract will include weekly servicing and daily servicing during the holiday weekends. Portable toilets are use to supplement these units on holidays and paid for with fee demo funds. These units are placed at Glamis Flats , Wash 4, Wash 6, and Dunebuggy Flats.

Trash Collection – If funding is approved, BLM will pay for the for 480, 40 yard trash bins in the Dunes. The cost has increased for an increased number of dumpsters on holiday and regular weekends. Dumpsters are located at sites around the Dunes, near entry / exit areas.

Figure 4 - A young rider setting a good example for others.

Volunteer Use and Coordination -The ISDRA Technical Review Team was established through a Memorandum of Understanding (MOU) between the EFO, the Off Highway Motor Vehicle Recreation Division and Commission. The 11-member TRT is an advisory committee that makes recommendations to ECFO staff on the expenditures of fees collected through the Recreation Fee Demonstration Program,

Figure 5 - Volunteer clean up events draw up to 4,000 people.

BLM appropriated funds, and grant funds provided through the OHV Grant and Cooperative Agreement Program. The TRT website www.glamisonline.org/trt.

The Volunteer **Dunes Patrol** is a group of 20-30 individuals that provide support to ECFO staff with search and rescue, emergency medical services, visitor outreach, environmental education and safety education campaigns. They are furnished with a radio and patrol pack to serve as the eyes and ears within the ISDRA. The dunes volunteers are most active on weekends and holiday weekends

(Halloween, Thanksgiving, Christmas/New Year's, Martin Luther King, President's Day, Easter).

Dunes Patrol member initiated the **Junior Ranger Program** by to educate young children about OHV safety, all terrain vehicle safety, environmental education, map and compass reading, and the flora and fauna of the Algodones Dunes. A total of 60 young dunes enthusiasts were trained and provided certificates in FY 2001. A total of 18 Junior Ranger Classes are scheduled for the Fiscal Year 03. Additional information is found on the EFO website at www.ca.blm.gov/elcentro/jr.ranger.html.

American Sand Association (ASA) volunteers were instrumental with the development and implementation of the checkered flag safety education program at the ISDRA. The checkered flag program was developed by ASA volunteers to promote dunes safety, respect for other dunes users and the environment. Over 30,000 safety bags were distributed in Fiscal Year 02 that provided information

about the ISDRA rules and regulations, temporary closures, recreation fee demonstration program and threatened Peirson's milk vetch.

Figure 6 – BLM Assistant Dunes Manager,Thomas Sharkey and local community kids pose for a picture on a Jr. Ranger desert hike in the North Algodones Dunes Wilderness.

Jennifer White, a dedicated BLM volunteer initiated the **6th annual cleanup** of the ISDRA during the Martin Luther King Holiday weekend (January 19, 2002). This past January, more than 3,500 volunteers participated in the one-day event and removed more than 6,000 bags of trash. Organizations that participated in this event included the American Sand Association, the California Off Road Vehicle Association, the San Diego Off Road Coalition, the California Association of 4WD Clubs and members

of the Volunteer Dunes Patrol. Although Ms.White will not coordinate the cleanup next January, ECFO staff plan to continue this annual ISDRA cleanup event.

The **Imperial County Aero Squadron** is a volunteer group supported by the Imperial County Sheriff's Department that provides aerial support on weekends and holidays at the ISDRA. The Aero squadrons utilize their own private aircraft to support the BLM's Law Enforcement Rangers and Imperial County Sheriff Deputies with aerial support. In fiscal year 2001, the over flights occurred during the six major holiday weekends (Halloween, Thanksgiving, Christmas/New Year, Martin Luther King, President's Day and Easter) and provided assistance with monitoring for vehicle intrusions in the North Algodones Dunes Wilderness and the other closed areas within the ISDRA. This same aerial support will be provided by the Aero squadrons volunteers.

Imperial Sand Dunes Recreation Area
Volunteer Statistics
Fiscal Year 01

Activity	Number of Volunteers	Donated Hours	Value of Work*
ISDRA TRT Meetings & Field Visits	11	700	$ 7,000
Volunteer Dunes Patrol	20	1,600	$22,000
Cleanups	4,000	20,000	$ 275,000
Dunes Closure Signing & Patrol	140	420	$ 5,900
Total	261	3,120	$ 40,400

**Besides the use of the trash dumpsters, no OHV grant dollars are use to support these volunteers.*

Site Administration and Direct OHV Program / Grant Administration- Salaries for the Dunes Manager and Assistant Dunes Manager are for the administration and direction of the OHV program for the Dunes. This includes management of budgets, VSS/EMS staffing, coordination with law enforcement, contracts, coordination with the natural resource monitoring staff, and administration / implementation of the grant funding.

Design and Printing for Brochures and Maps – Maps and brochures are printed with other grants, fees, and appropriated.

Construction of Physical Barriers and Other Traffic Controls - During the year the El Centro BLM office sets up two unannounced green sticker check points on highway 78 west of the dunes. At the checkpoint, we check for proper OHV registration (usually about 90% compliance) and stolen off highway vehicles. These checkpoints are set up in coordination with the Imperial County Sheriff's Office and the CA Highway Patrol. In addition to the unannounced checkpoints, we also set up two "amnesty day" events at Cahuilla Ranger Station in the Dunes. During Amnesty Day, the BLM, CA Highway Patrol, and the CA Department of Motor Vehicles work together to set up an OHV registration area to bypass the cumbersome process of registration at home. The BLM Rangers also set up unannounced OHV sobriety checkpoints at certain points in the dunes. Barriers are rented and place at strategic

Figure 7 - Law Enforcement off-highway vehicle pinch point on the sand highway near Competition Hill.

locations in order to funnel all OHV traffic into a designated point where drivers can be checked for DUI if there is probable cause.

Trail Maintenance – Not applicable. The Dunes are a designated open area.

Routine Visitor Monitoring and Surveys – In March 2001, traffic counters were installed in all of the main entry / exit points in the dunes. The vehicle counter data is manually retrieved every Sunday and the counter is reset. This data is collected and entered into the BLM Recreation Management Information System and is multiplied by 3.5 to determine the number of visitors. Once a year, there is an over flight done during the Easter weekend. Ariel photography is collected on designated on east west transects across the dunes. These photos are later analyzed to determine vehicle track coverage and used in the annual plant monitoring study. The BLM has been, and continually works cooperatively with the Dunes TRT. The TRT is a representation of the visitors to the Dunes and has set up a web site with an online survey. Through the survey, the TRT has made recommendations to the BLM on management actions to be taken in the Dunes. The survey results also have given the BLM an opportunity to understand what issues are most important to the Dunes visitors.

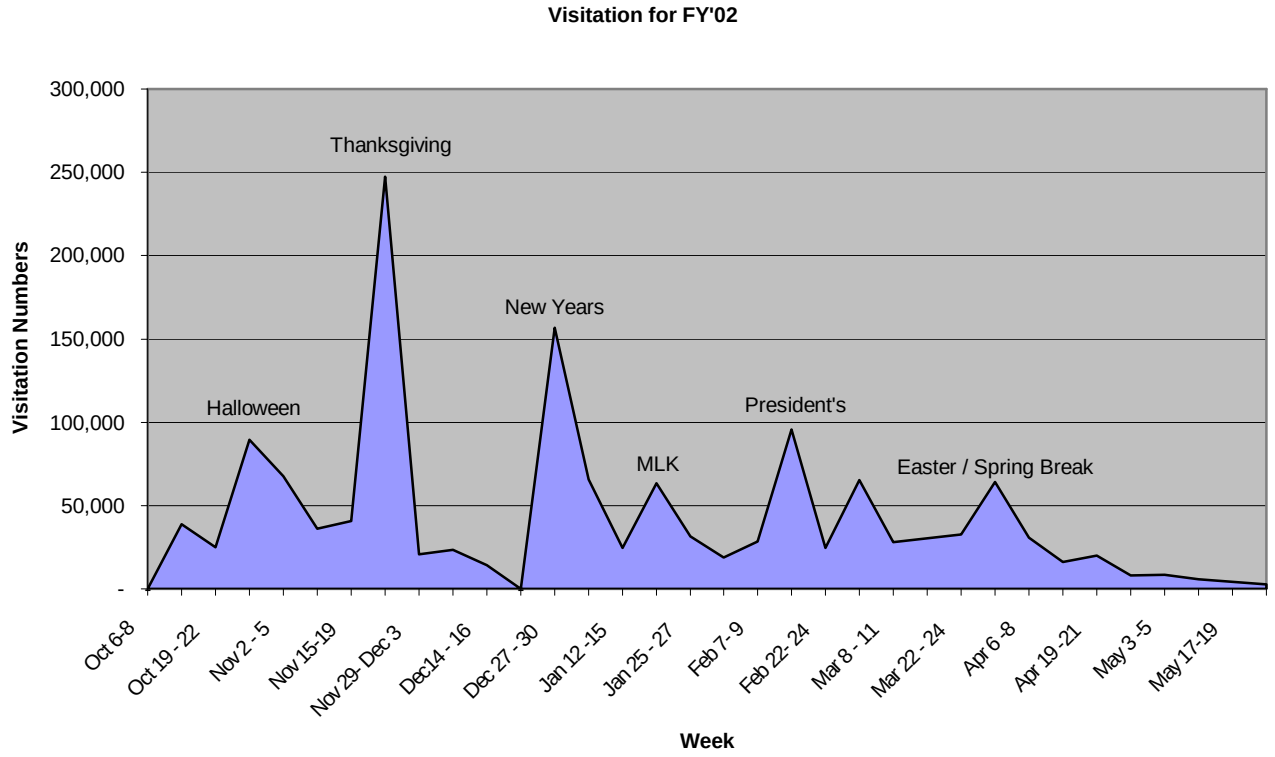


Figure 8 - This graph illustrates the extreme peaks in visitation at the Dunes. This data was collected during the 2001-2002 season

Minor Trail Relocation- NA

Mitigation and Protection for Cultural Resources- NA

Purchases of Tools and Equipment Exceeding $250 –

Preliminary Alcohol Screening (PAS) Device - $650 each - These devices are used to calculate persons blood alcohol level. They are used as evidence in cases involving DUIs. These are to be used at the OHV checkpoints and within the Dunes area for enforcement of California vehicle code violations and visitor safety.

Light stands - $500 - These are portable heavy duty halogen light stands setup for officer and visitor safety and will be used primarily at the scheduled Green Sticker check points to provide adequate light. Previous stands proved to be inadequate, high maintenance, and not cost effective.

Radar speed guns - $4,000 - These are to gauge speed on and off-road. They will be used in the area of the sand drags and around campgrounds to enforce the speed laws and increase visitor safety.

Kiosks, Signboards, Regulatory, and Directional Signs - All signs and other items are purchase and installed with other funding.

Administrative component – The Public Contact Person, of the administrative staff in the El Centro Field Office, spends over three fourths of her time on Dunes related issues. She is the coordinator of the Dunes Jr. Ranger Program, coordinator for the distribution of Dunes related interpretive materials at the Dunes and at trade shows across the Southwest U.S.

IV. LAW ENFORCEMENT PLANS

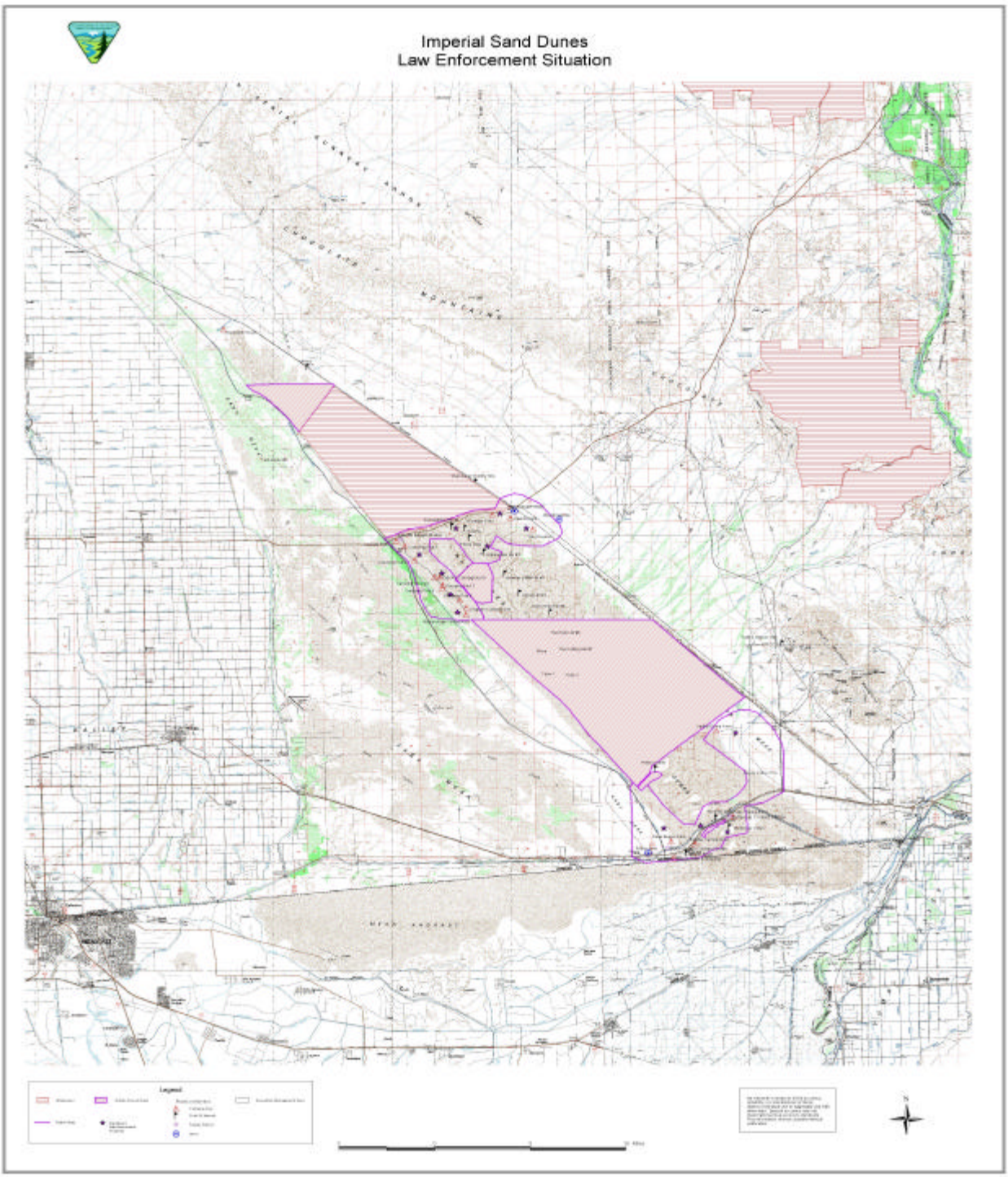


Figure 9 - MAP 2, Law enforcement patrol map, purple lines indicate areas of concentrated patrols and dots indicate sites of concentrated law enforcement incidents. (see attached enlarged map)

Law Enforcement Issues

The Imperial Sand Dunes Recreation Area has unique law enforcement and legal concerns stemming from the unique terrain and high OHV visitation. Managing the area is difficult because the number of people in the Dunes fluctuates rapidly during the year. Although the most visitors are family oriented and have a good time when they are at the Dunes, a small percentage of people cause the majority of the problems. The Bureau operates under constraints. It must increase the level of enforcement directed at large crowds like the ones at Competition Hill and the Sand Drags, to enforce laws related to driving under the influence (DUIs), illegal drugs, assaults, speeding, etc., without greatly impacting the quality of use currently enjoyed by most of the visiting public. Much of the lawless behavior stems from younger adults and juveniles who access the area in two-wheel drive vehicles. Many times, they are not considered part of the duning community. They are at the Imperial Sand Dunes to be part of a group that frequents the area to seek out the party atmosphere creating numerous law-enforcement issues. Some of them are:

- Driving under the influence of a drug or alcohol
- Assaults on the public and employees
- Under-age drinking of alcohol
- Drug use
- Traffic violations (speeding, double riding, riding ATV's without a helmet, no safety flags on vehicles, unregistered vehicles, equipment violations, etc.)
- Fee violations
- Resource violations (littering, destroying natural feature, dumping hazardous materials or waste, etc.)
- Stolen vehicles and other property
- Inciting riots or illegal activities
- Interfering with lawful uses of visitors
- Parking and camping violations
- Closure violations

The BLM El Centro FO has historically had insufficient staff to deal with law enforcement in the Dunes. Non-holiday weekends are relatively quiet although visitors may number as many as 30,000. Holiday visitation peaks about six times a year with over 100,000 on Thanksgiving weekend. The ranger staff now consists of twelve permanent rangers. Five of which are still in training. Hiring the staff needed to handle the busy times is not feasible; therefore, the El Centro FO borrows staff from several Federal, State and local agencies from across the United States. During peak periods other BLM Rangers, U.S. Forest Service, National Park Service, Park Police, and the Border Patrol together with ICSO, Ca. State Parks, CHP and CA BNE assist in dunes enforcement. Assistance sometimes has to come from as far away as Hawaii and Nebraska in response to needed law enforcement on holiday weekends

Many times those detailed officers are unfamiliar with the area, its terrain, regulations, and local policies. The FO also has difficulty providing enough vehicles for rangers' travel on flight to the El Centro FO. Officers coming from afar sometimes feel that the resources in their home areas are left unprotected when their law enforcement staffs are detailed to the Dunes during holiday weekends. The cost of travel for the detailed rangers is expensive.

A cooperative agreement with the Imperial County Sheriff's Office (ICSO) has been developed to provide assistance to the BLM and was funded through a grant from the Off Highway Motor Vehicle Recreation Division and Commission. Currently it provides for two deputies on a full-time basis and up to eight additional officers from the surrounding cities to work the busy holiday events. The additional grant

obtained by ICSO provides for their funding needs, however, BLM continues to fund all other agencies participating in the holiday incidents (approximately 400k per holiday/incident).

Solutions

The main solution has always been and remains the need to increase the coverage of law enforcement officers throughout the OHV season. Through the MOU with ICSO we are able to provide for Officers to appear at high-use areas in the Dunes such as Competition Hill and the Sand Drags during non-holiday weekends.

Carried over from last season each of the identified holiday weekends will be run under a BLM incident command system. ICSO, CHP, and BLM all have a representative, but by request of the Imperial County Sheriff, it was agreed that BLM maintains overall command and control of the incident. Each holiday incident plan lists enforcement priorities and the Law Enforcement Special operations.

We will continue to request Law Enforcement assistance from several other law enforcement agencies. At peak times we expect to have as many as 150 Law enforcement officers working in the Dunes to enforce federal and state laws. Currently ICSO provides as many deputies as are available, they also work to bring in officers from the neighboring counties. Those numbers will be combined with the federal law enforcement rangers and agents from NPS, BLM, and the USFS to reach the desired staffing level. 75 to 150 officers will be detailed to the ISDRA on all major holiday weekends.

In addition we are going to continue to work with several of the OHV user groups to develop reasonable and effective means of solving some of the other problems created from the gatherings like the sand drags (crowd control, safety, etc.).

Enforcement of the following laws will be done by:

Spark Arresters - Normal patrol checks when on a stop.

Registration - Checkpoints, amnesty days, and normal patrol checks. Controls at checkpoints occur once or twice a year, unannounced to the public. These stops are coordinated with the California Highway Patrol (CHP) and the Imperial County Sheriffs Department (ICSO). During the check, OHVs are inspected on trailers as they pull into the recreation area. All violators are cited, and stolen vehicles are recovered. BLM administers two “amnesty” days each year. These are pre-arranged times when visitors can bring their OHVs to Cahuilla Ranger Station on Gecko Road without fear of citation for no registration. Amnesty days are coordinated with the CHP and Department of Motor Vehicles (DMV). Employees from both agencies are on hand at the Station to complete OHV registration paperwork and provide vehicle identification stamps.

Noise - The El Centro FO presently has a decimeter but no ranger certified to operate it. Training and certification are sought to certify several ECFO rangers in decimeter use. Once certified, rangers will use the decimeter as part of their normal patrol.

Damage to Resources -Regular law enforcement patrols focus on littering, dumping, and destruction of vegetation. Increasing the number of law enforcement officers in the ISDRA on all weekends is vital for successful detection and prosecution. Resource violations consists of, but are not limited to, littering,

destroying natural feature, dumping hazardous materials or waste. Resource protection is ranked in the priority one category of holiday weekend plans.

Trespass - Increased presence of law enforcement staff is necessary to prevent illegal entry into closed areas. Acquisition of six quads last year and a law enforcement dune buggy this year from Demo Fee funds, will provide better surveillance of closed areas and enhance the ability to enforce these closures. Increased law enforcement is necessary to improve past performance.

The enabling legislation that designated the North Algodones Dunes Wilderness Area was the California Desert Protection Act (CDPA). This Act allowed for continued motorized use by California Fish and Game to monitor and maintain their wildlife guzzlers inside the wilderness. The CDPA also allows U.S. Border Patrol (USBP) to continue their border operations inside wilderness. Although these uses are allowed, they have an impact on the wilderness values of solitude and naturalness. This issue will discuss at what levels these uses will be allowed and how the impacts can be mitigated, while accomplishing the goals of all agencies involved.

DUI -The El Centro FO has an outstanding record for DUI enforcement and intends to continue that effort in following years. BLM continues to move toward insuring that all local and as many visiting Rangers possible are trained in DUI detection and enforcement. Continued patrols on quads, 4X4's, and the law enforcement dune buggy are planned for tracking down DUIs. On busy Holiday weekends the use of very successful OHV contact points located at the main entry and exist points will continue. The continued assistance from the California Department of Justice is also crucial to maintain the Intoxilizer 5000™ machine at the Cahuilla Ranger Station and funding is sought to place another machine in the south dunes. Increasing the number of rangers patrolling the Dunes is a necessary step in improving overall DUI enforcement.

Search & Rescue - The main responsibility of search and rescue resides with Imperial County; however, BLM Park Rangers and L.E. Rangers are regularly the initial respondents for requests. Imperial County does not have the resources to provide the services that the BLM can muster. If our staff cannot locate a person, we contact the ICSO. They send out a deputy to assess the situation and if needed he will call out De Anza Search and Rescue Volunteer Team. The De Anza Team is a rescue team sanctioned by Imperial County. The volunteers have several ATVs, 4x4s, and a bus-converted base station but are not set up to handle the volume of calls the BLM responds to.

Emergency and Agency Phone Numbers - In an emergency, visitors can contact the BLM 24/7 telephone number at the Federal Interagency Communications Center (909-383-5651), Imperial County 911, or, on the weekends, Cahuilla Ranger Station dispatch (760-344-3919). During the holidays we set temporary ranger stations at Buttercup (760-996-3378) and Dunebuggy Flats (760-996-0052) with cell phones. In addition to our holiday operations we are looking at getting numbers that would go directly to our incident dispatch.

Law Enforcement Staff and Their Classification- We employ three full time law enforcement rangers, two for the north end of the Dunes and one for the south. Holiday help (up to 150 officers) is brought in from out of the areas during the six holiday weekends.

Patrol Schedule -At this time the El Centro Field Office has a staff of twleve delegated law enforcement rangers and by the beginning of the OHV season four trainees, conduct regular patrols in the resource area. Two Rangers plus one “floating” Ranger are assigned to the Imperial Sand Dunes as their regular patrol sector. During the OHV season, at least three rangers will patrol the ISDRA during the week in eight- to ten-hour patrols. On weekends, four to six rangers will be in this area on eight- to ten-hour

patrols. Shifts may vary from early morning to late at night. During major holidays, the area will be patrolled approximately 20 hours each day. This schedule will require between 75 and 150 officers, depending on the holiday. Funds from this grant will fund a portion of the $4 million needed for law enforcement in the dunes over a season.

Signs - Signing is done in cooperation with the recreation staff and paid for out of fees and appropriated funds.

Educational Materials -At this time the El Centro Field Office has a staff of twelve persons on the law enforcement staff that conduct regular patrols in the resource area. Two of our twelve Rangers are assigned to the Imperial Sand Dunes as their regular patrol sector. Those Rangers regularly patrol in the Dunes to educate, and inform the visitors of the rules and regulations and enforce them as necessary. Both BLM and visitors to the ISDRA are concerned about the current situation that exists. An ever-increasing population during the use season has created larger crowds in the camping and riding areas. A certain element of the visitors is increasing who appear to believe that they can do whatever they want, without regard to the consequences to themselves or others. From this, the need to develop an educational program was identified and aimed at raising the level of awareness of the rules, regulations, and safety concerns. Several of the Rangers are developing better ways of disseminating that information to visitors through the Internet and through partnerships with the various user groups and businesses that focus on the Dunes. And finally, the Resource protection portion of the RAMP identifies other options available to implement enforcement education programs. Avenues like visitor involvement, alternative forms of punishment for certain violations and involvement in the Junior Ranger program.

V. CONSERVATION ACTIVITIES

Over the last two decades, the California Desert Conservation Area (CDCA) Plan of 1980 as amended in 1999, has been the overall guidance for conservation management of BLM lands in the California Desert. Consultation and coordination with the California Department of Parks and Recreation, Off Highway Motor Vehicle Recreation Division, has led to creating the Algodones Dunes OHV Resource Protection Program (RPP). The RPP is based on careful consideration of the requirements of the California OHV Grant and Cooperative Agreement Program Regulations, the 1991 Soil Conservation Standards and Guidelines, and the Algodones Dunes Wildlife Habitat Management Plan of 1987, and the forthcoming Recreation Area Management Plan for the Imperial Sand Dunes Recreation Area (the RAMP) (draft version 2002.

The California Desert District Regional Standards for Public Land Health as recommended by the California Desert District Advisory Council are being applied and are as follows. (Refer to map 1 on page 3 and map 3 on page 19 of the CDCA Plan).

Biological Survey Schedule

Biological Survey / Monitoring	**Time Of year**	**Vehicle**	**Length & Employee #**
Point Counts/Birds	Late Winter/Spring	State Ecologist ECO Interns BLM Resource & Recreation Staff	3-4 Weeks: 4 full time people.
Colorado Desert Fringe Toed Lizard	Spring and Fall	ECO Interns BLM Resource &	4-6 Weeks/Season 2 Seasons. 4-6 full

Surveys		Recreation Staff	time employees.
Flat tailed Horned Lizard Surveys	Spring/Summer	ECO Interns BLM Resource & Recreation Staff	8-12 weeks: Future scheduling will depend on 2002 results. 4-5 full time employees.
Desert Tortoise Surveys	Spring or Fall	ECO Interns BLM Resource & Recreation Staff	3-4 Weeks: Future scheduling will depend on 2002 results. 2 full time employees.
Rare Plant Surveys	Spring	State Ecologist State Botanist ECO Interns BLM Resource & Recreation Staff ASA Volunteers CNPS Contract	2-3 Weeks: Future scheduling will depend on 2002 results. Future surveys may require the equivalent of 8-10 full time employees.
Remote Camera Monitoring	Year Round	ECO Interns BLM Resource & Recreation Staff	Year round maintenance and film exchange. Varied. 2 full time employees for 3 weeks total.
Amphibians	Per precipitation incident	ECO Interns BLM Resource & Recreation Staff	1 week. 2 employees

Soils

Soils must exhibit infiltration and permeability rates appropriate to soil type, climate, geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor as indicated by:

- Canopy and ground cover appropriate for the site;
- Diversity of plant species with a variety of root depths;
- The sustained presence of microbiotic soil crust;
- Evidence of wind or water erosion within natural rates for the site; and
- Hydrologic and nutrient functions maintained by permeability of soil and water infiltration appropriate for the local precipitation regime.

Sand dunes cover most of the recreation area. These dunes move naturally from the wind. We take annual aerial photos of the area on designated flight transects. From photo analysis, the movement of sand appears natural or shows no signs of accelerated erosion. Therefore, the El Centro FO staff concludes that the sand dunes do not have any areas out of compliance with the OHV Division soil standards.

Native Species

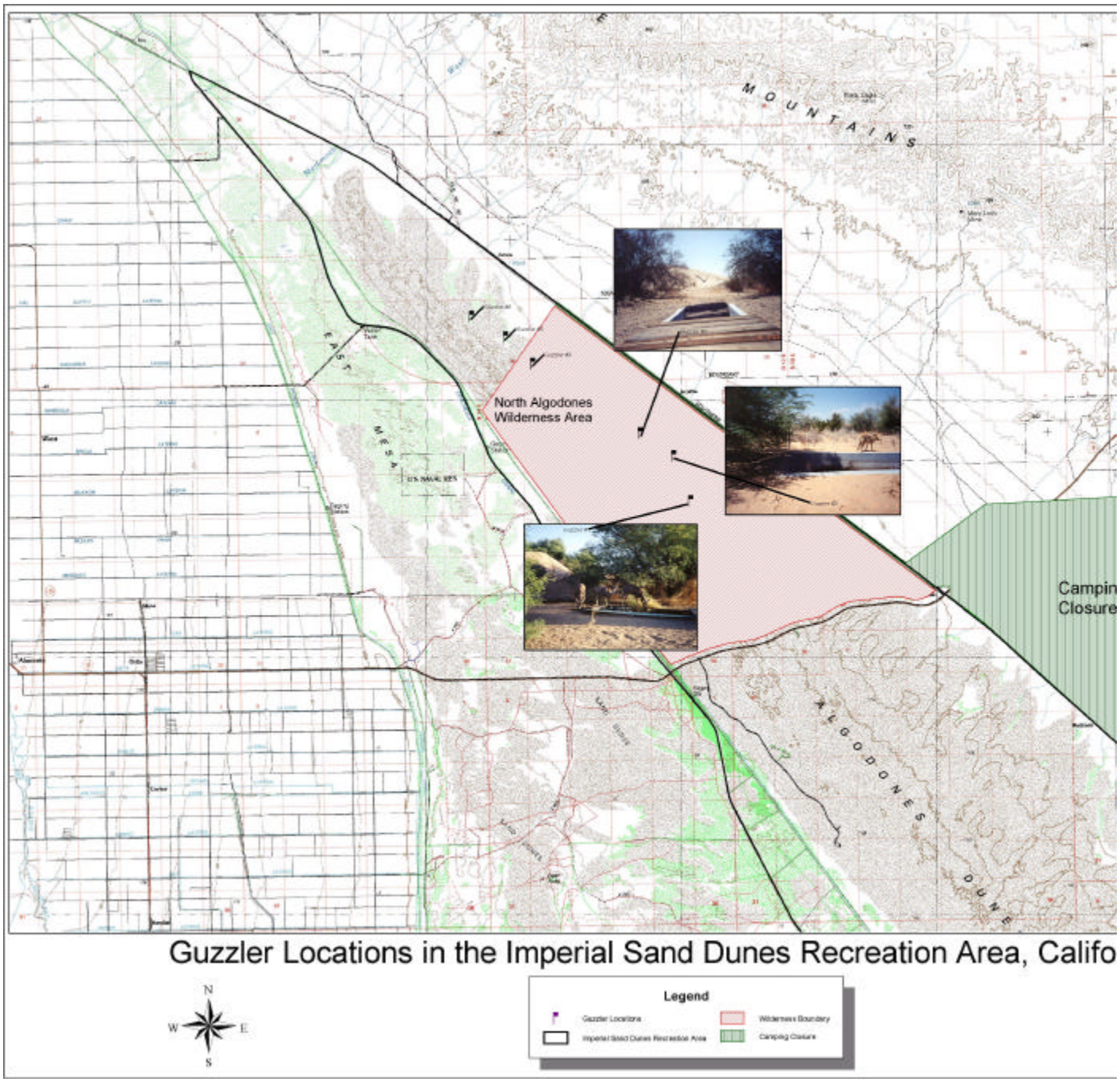
Healthy, productive and diverse habitats for native species, including special status species (federal T&E, federally proposed, federal candidates, BLM sensitive, or California state T&E and California Desert District Unique Plant Assemblages) are maintained in places of natural occurrence as indicated by:

- Photosynthesis and ecological processes at consistent levels suitable for the site, season, and precipitation regimes;
- Plant vigor, nutrient cycle, and energy flow maintaining desirable plants and ensuring their reproduction and recruitment;
- Plant communities producing litter within acceptable limits;
- Age class distribution of plants and animals sufficient to overcome mortality fluctuations;
- Distribution and cover of plant species and their habitats capable of reproduction and recovery from localized catastrophic events;
- Alien and noxious plants and wildlife not exceeding thresholds of acceptability;
- Evidence of appropriate natural disturbances; and
- Populations and their habitats sufficiently distributed to prevent listing as a special status species.

Riparian/Wetland and Stream Function and Water Quality:
The Dunes do not have wetlands or riparian areas except after intense rainfall events when pools briefly form in the depressions between Dunes. Rainfall is the only source of surface water.

Maps

The maps on the following pages are enclosed with this document in full size.


MOUNTAINS
North Algodones
Wilderness Area
EAST
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ALGODONES
DUNE
Guzzler Locations in the Imperial Sand Dunes Recreation Area, Califo
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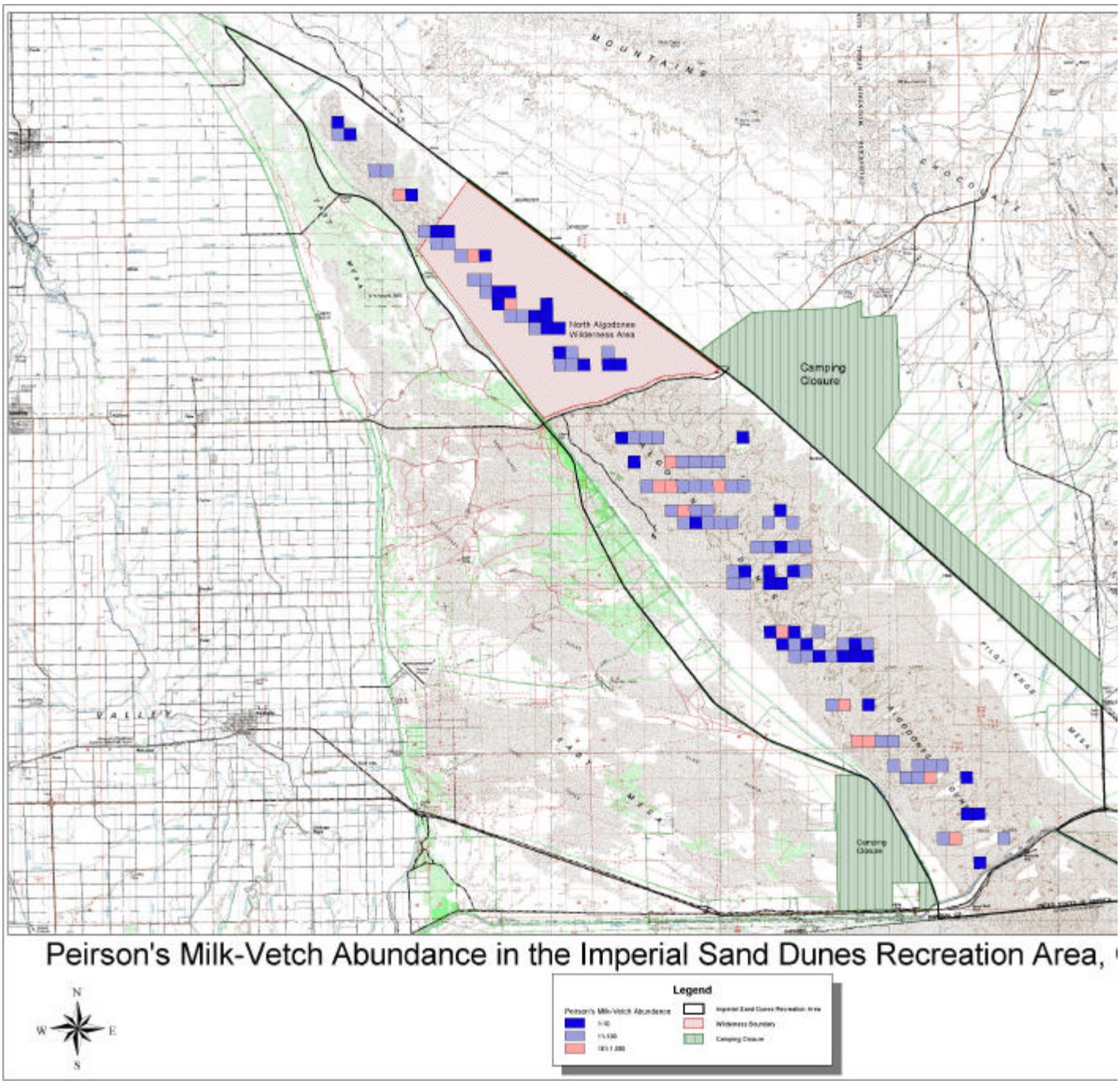
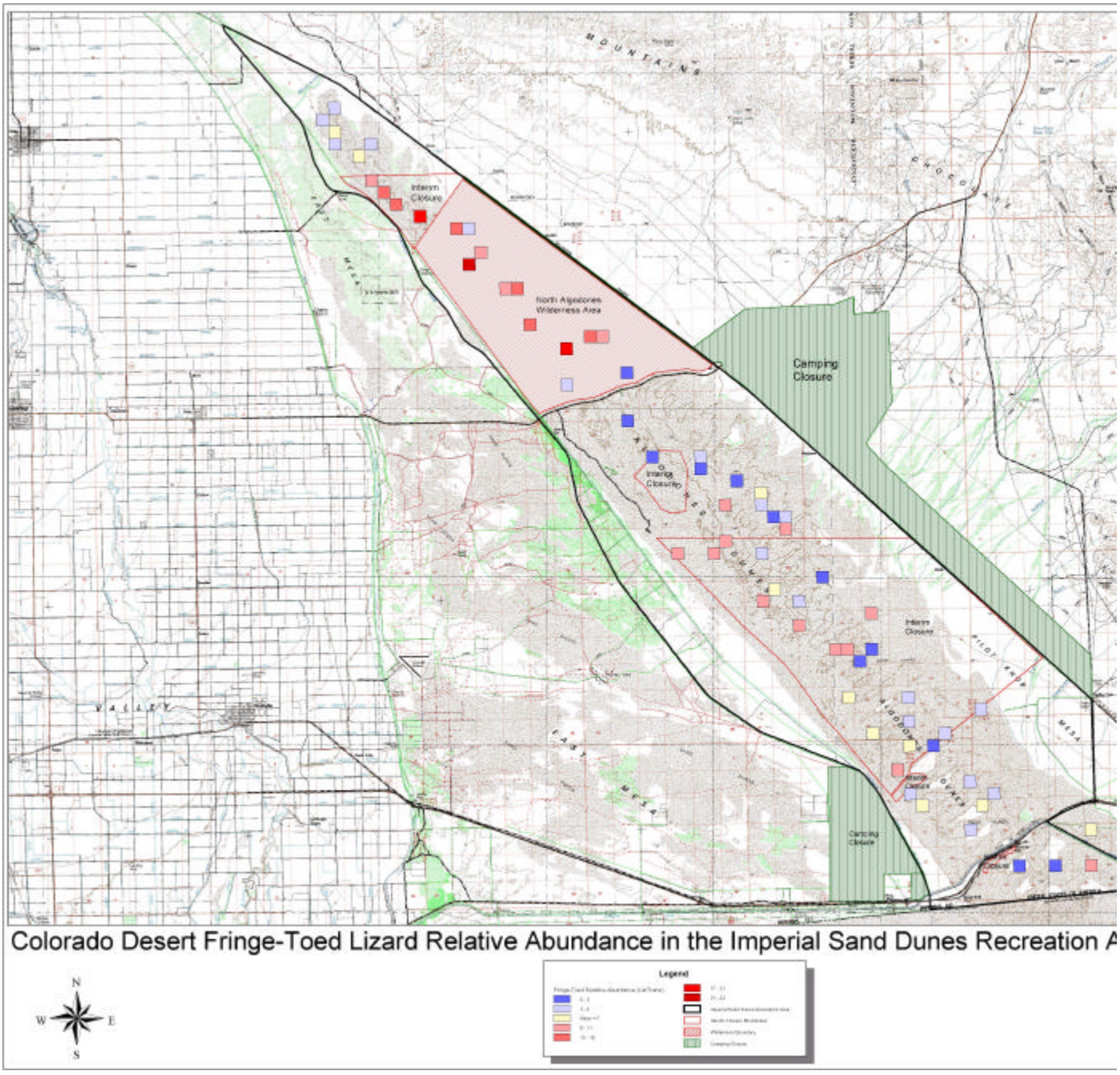
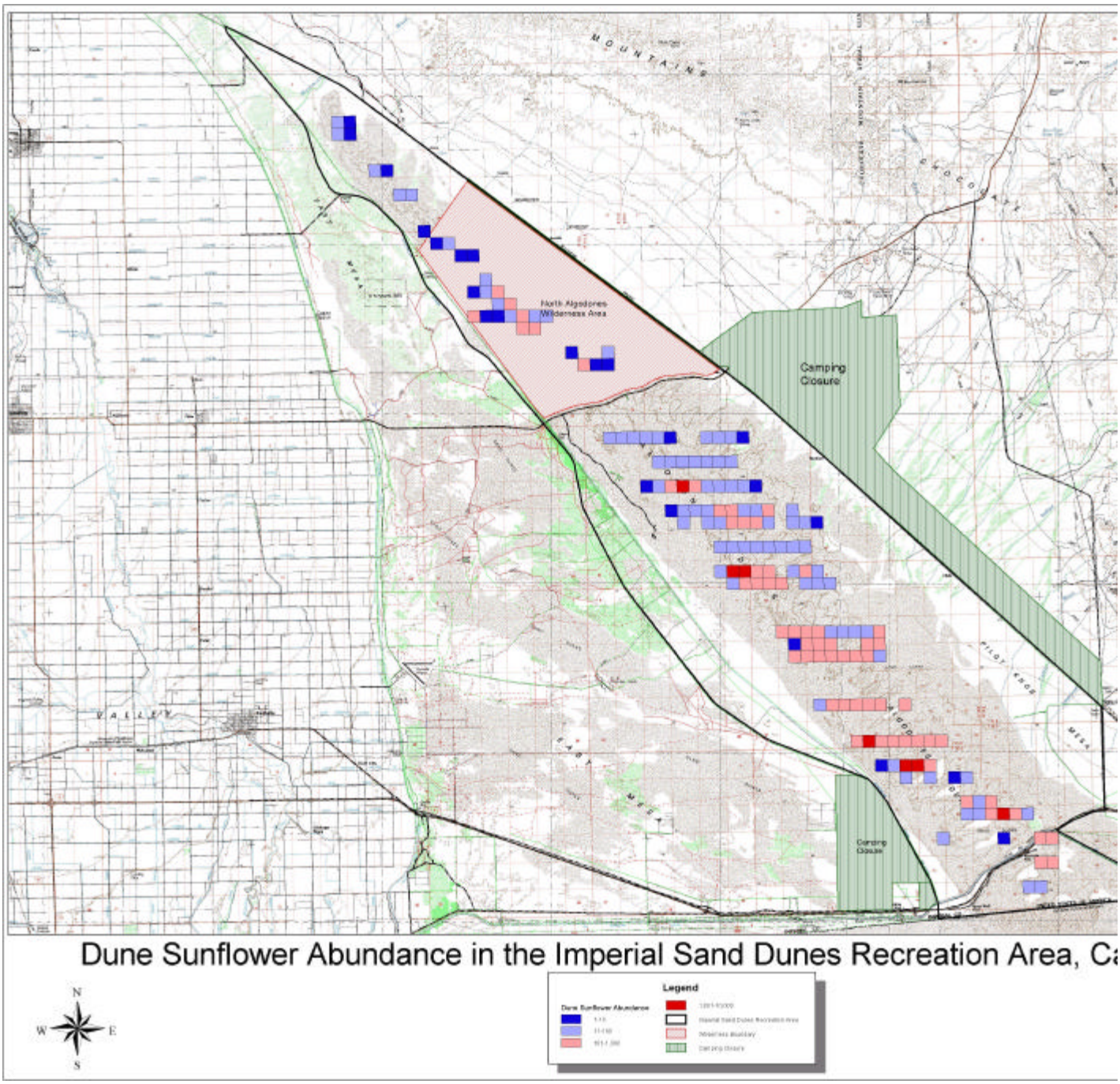
Guzzler Locations
Wilderness Boundary
Imperial Sand Dunes Recreation Area
Camping Closure



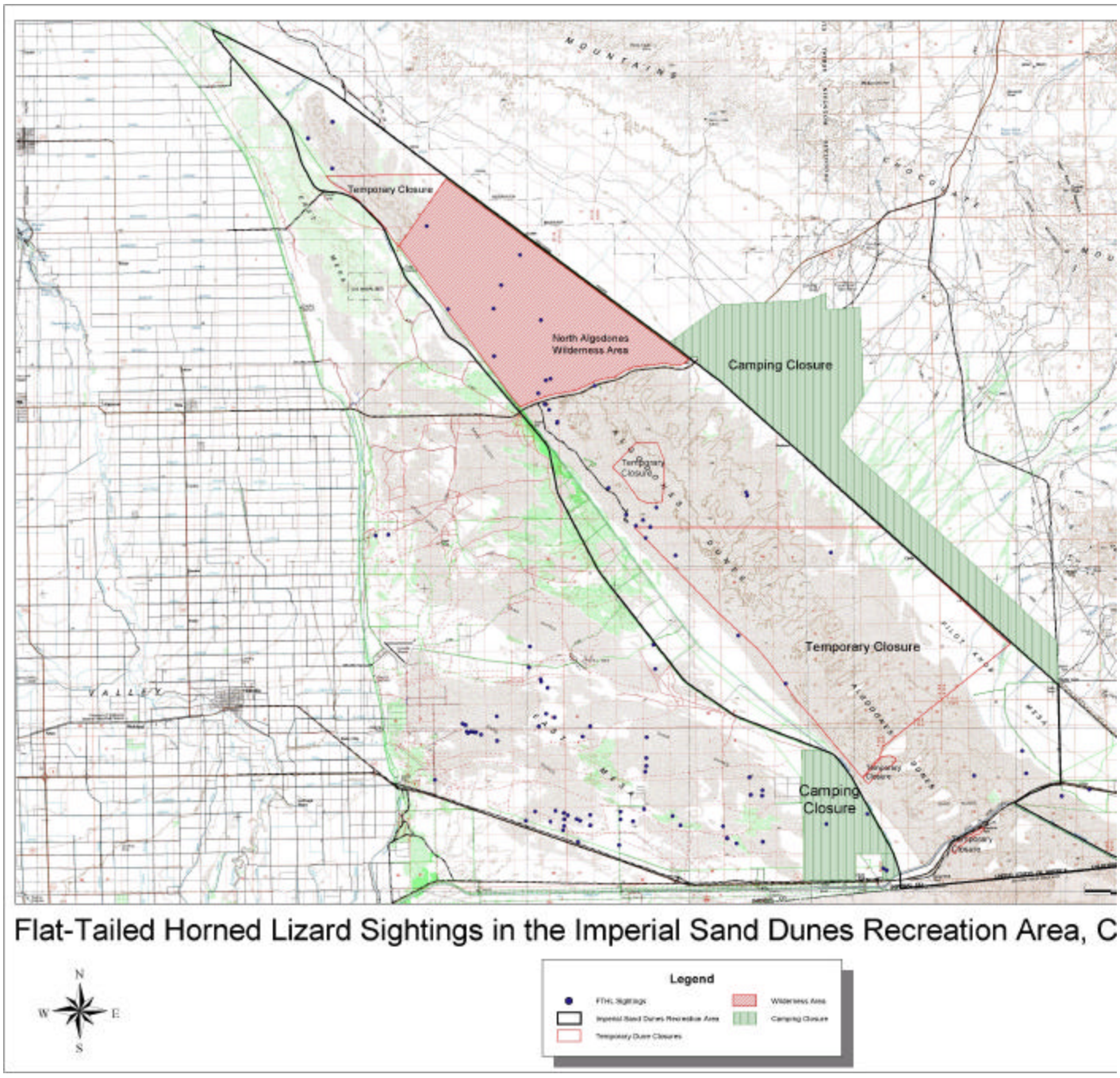
Peirson's Milk-Vetch Abundance in the Imperial Sand Dunes Recreation Area,



Colorado Desert Fringe-Toed Lizard Relative Abundance in the Imperial Sand Dunes Recreation A



Dune Sunflower Abundance in the Imperial Sand Dunes Recreation Area, Ca


Temporary Closure
North Algodones Wilderness Area
Camping Closure
Temporary Closure
Temporary Closure
Camping Closure
Flat-Tailed Horned Lizard Sightings in the Imperial Sand Dunes Recreation Area, C
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FTHL Sightings
Wilderness Area
Imperial Sand Dunes Recreation Area
Camping Closure
Temporary Dune Closures

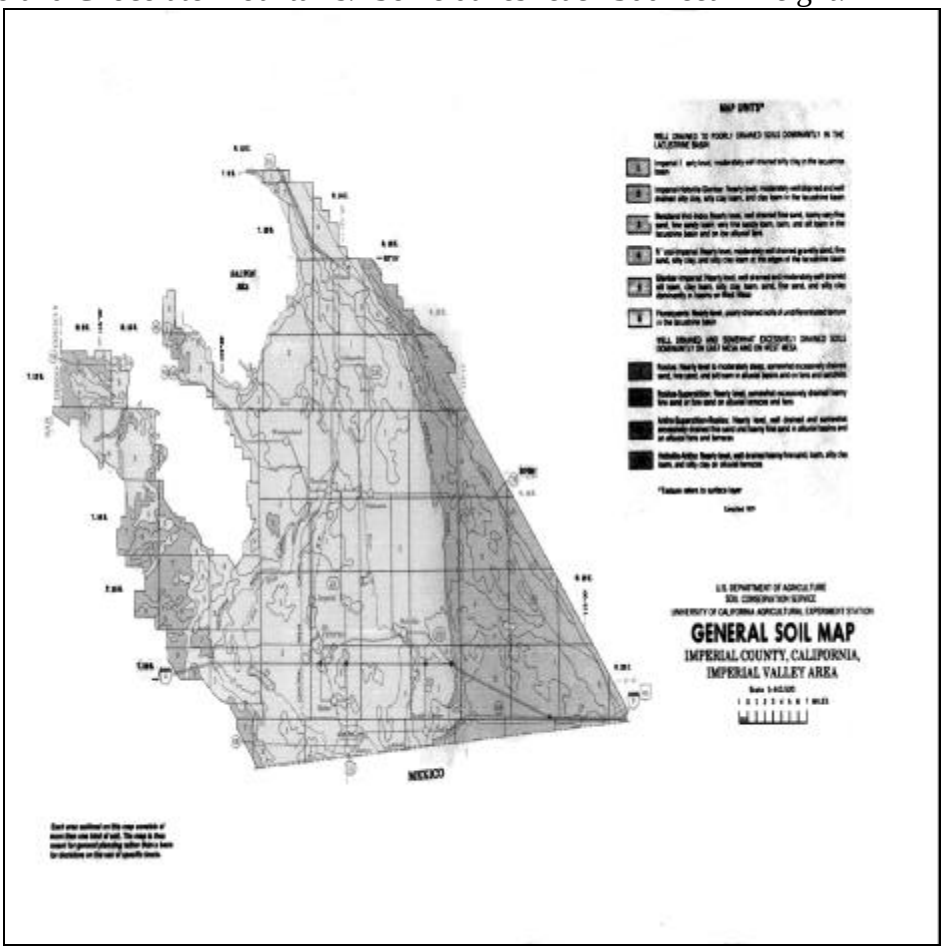
Baseline Resource Information

Soils

Available information regarding soils in the Algodones Dunes is limited. The BLM El Centro Field Office uses the Imperial County Soil Survey (1981) as its baseline for soils information in the Algodones Dunes, and many research papers describe the soil/sand strata associated with this area. The unique nature of sand dunes in general provides little information for monitoring. However, sustained monitoring of habitat found within the Dunes and edges produces data for detecting changes in habitat size, distribution, and health. Generally, when OHVs traverse dunes, sand from the top of the dune is deposited down at the dune bottom. During high winds the sands are redeposited at the top of the dune and create a steeper slipface once again.

Soils in most of the Imperial Dunes are Rosita sand soils. These soils are excessively draining. Slopes run up to 30 percent. Natural vegetation consists of shrub growth. However, a mosaic of Indio-Vint complex soils characterize the flat east portion of the Dunes, particularly where Sonoran Desert woodland occurs at the east front of the Dunes. Away the Dune front, these soils have a shrub vegetation. Alluvial runoff from mountains east of the Dunes creates desert washes with coarse gravel and higher clay content. These soil types are not named.

The Imperial Sand Dunes are comprised of a variety of dune types (e.g. draas, linear, parabolic, barchan, zibars). These dunes are separated occasionally by inter-dune areas, where relatively little sand accumulates into dune formations. The dune system lies on alluvial fan material emanating from the Cargo Muchacho and Chocolate Mountains. Some dunes reach 300 feet in height.



C. Dune System

The dunes are composed of sand that is 60-70% quartz, 30-40% feldspar with very minor amounts of biotite, magnetite, garnet and epidote. A large percentage of the grains are coated with ferric oxide, resulting in a pale orange cast to the sand. Approximately 60 percent of the grains are sub-rounded to sub-angular. The remainder of the grains is either rounded or angular. Grain size decreases from west to east across the dunes (while sorting increases), indicating the source is from the west (i.e., a decrease in size, and increase in sorting, occurs as sand moves away from the source). The source of the sand is thought to be ancient Lake Cahuilla shoreline deposits. Much of this sand was deposited by the Colorado River, and reworked by the ancient lake.

The potential for wind erosion is low in dune deposits, except during high wind events (winds that are strong enough to entrain sand size particles). Most sand movement occurs during high winds, which usually are not long lasting events. Research (Kocurek and Havholm, 1991) shows that the large dunes (draas) migrate to the southeast at a net rate of 6 to 25 cm/yr; while, superimposed dune structures migrate northeast at a net rate of 10 to 50 cm/yr. However, the resultant transport direction is to the southeast (this is the effective transport direction of sand, given prevailing wind direction during various seasons). So, while there are components of sand movement in various directions during seasonal prevailing winds, the overall transport direction is to the southeast. While dune deposits are constantly reshaped during wind, sand particles only move a short distance (with the exception of during strong wind events).

The potential for water erosion is slight. Because compaction of sand grains is low, voids occur between grains. These voids allow the water to percolate through the soil. This type of soil has a high permeability. Surface runoff is slow. Precipitation mostly moves down through the grains, not laterally. Available water capacity is low. Only during rare flood events and creation of turbulent waters, would significant water erosion occur. The average annual rainfall for the area is approximately two inches, while evaporation exceeds 106 inches annually (Mesquite Mine Closure and Reclamation, 2001, pg. B-12).

The United States Department of Agriculture soil survey for Imperial County (1981) classifies dune sand as "Rositas fine sand". Typically this Rositas soil is reddish-yellow fine sand to a depth of 60 inches. In some areas, the soil is loamy fine sand, or the soil colors are less bright. This soil is somewhat excessively drained. The effective rooting depth is 60 inches or more. This survey states the soil is used for desert recreation, with little potential for farming, home sites and urban areas.

Inter-dune Areas

The inter-dune areas are deflated to the alluvial surface, with occasional small-scale sand dune features (e.g., barchan dunes, linear dunes, sand ripples). According to the USDA report (1981; mentioned above), the soil type varies from reddish-yellow fine sand (i.e., "Rositas" fine sand) to brownish-loamy fine sand (i.e., "Rositas" loamy fine sand). The Rositas fine sand extends to a depth of approximately 60 inches, and is somewhat excessively drained. Permeability is rapid, and available water capacity is low. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is high. The effective rooting depth is 60 inches or more. This soil is used for desert recreation and wildlife habitat. This soil has a potential for farming, and is well suited to home-sites and urban areas.

The Rositas loamy fine sand extends to a depth of typically 4 inches, and is somewhat excessively drained. A pink to pale brown fine sand to a depth of 60 inches underlies the Rositas loamy fine sand. Up to 2 percent of this sand is soft masses and lime concretions. Permeability is rapid, and available water capacity is low. Surface runoff is slow, and the hazard of erosion is slight. There is a high hazard

of soil blowing. The effective rooting depth is 60 inches or more. The soil is used for desert recreation, with a potential for farming, and is well suited for home-sites and urban areas.

Local compaction can be high due to OHV use. BLM field observations have found, local areas of the inter-dune system are less permeable due to more clay content. Standing water and mud cracks were observed.

Major Habitats

The Algodones Dunes system consists of the following plant/wildlife communities and assemblages as defined in Holland (1986) and in Sawyer and Keeler-Wolfe (1995). Additional information regarding plant species and associations come from Hickman (1993).

Figure 10 - Psammophytic scrub habitat.

Psammophytic scrub occurs in the interior of active sand dunes, most frequently between active dunes in bowls (depressions). As dunes shift, the bowls shift as well. This habitat is classified under the California Desert Plan as a very sensitive unusual plant assemblage (UPA) and contains six rare, threatened, or sensitive species of plants (See table 1). The soils are made up of fine Rosita sands. The dominant species are longleaf jointfir (*Ephedra trifurca),* Colorado Desert buckwheat *(Eriogonum deserticola*), and fanleaf crinklemat *(Tiquilia plicata*).

Common animal species include mourning dove, cliff swallow, coyote, roundtail ground squirrel, desert kangaroo rat, and blacktail jackrabbit. This habitat has the following special status insect, reptile , and bird, species respectively: Andrews Dune scarab beetle (*Pseudocatalpa andrewsi*); Colorado Desert fringe-toed lizard (*Uma notata notata*), and flat-tailed horned lizard (*Phrynosoma mcalli*); black-tailed gnatcatcher (*Polioptila melanura*), LeConte's thrasher (*Toxostoma lecontei*).

Creosote bush scrub generally occurs on the edges of the dunes and contains creosote bush (*Larrea tridentata*), goldenhills (*Encelia farinosa*), and burrobush (*Ambrosia dumosa*) and numerous annuals that depend on rainfall.

Creosote bush scrub is associated with the three special-status species of vertebrates (See table 2). Common associated species include desert iguana (*Dispsosaurus dorsalis*), zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), western whiptail lizard (*Cnemidophorus tigris*), red-tailed hawk, mourning dove, lesser nighthawk, black-tailed gnatcatcher, yellow-rumped warbler, white-crowned sparrow, big brown bat, kit fox, roundtail ground squirrel, and blacktail jackrabbit.

Blue palo verde – ironwood - smoke tree (microphyll woodland) habitat occurs at the edges of the dunes and generally follows washes associated with the nearby Chocolate and Cargo Muchacho mountain

Figure 11 - Blue palo verde – ironwood - smoke tree (microphyll woodland) habitat occurs at the edges of the dunes and generally follows washes. In this image, follow the linear vegetation to the habitat pocket on the eastern edge of the Dunes.

ranges. Plants commonly associated with this habitat are blue palo verde (*Cercidium floridum*), desert ironwood (*Olneya tesota*), smoketree (*Psorothamnus spinosus*), and, to a lesser degree, honey mesquite (*Prosopis glandulosa*). Shrubs associated with this habitat are creosote bush and goldhills.

Blue Palo Verde-Ironwood-Smoke Tree Habitat is habitat the flat-tailed horned lizard (proposed for Federal listing) and also has the following vertebrate: side-slotched lizard (*Uta stansburiana*), western whiptail lizard, zebra-tailed lizard, sidewinder rattlesnake (*Crotalus cerastes*), Gambel's quail, mourning dove, ladder-backed woodpecker, verdin, white-crowned sparrow (winter only), western pipistrelle, kit fox, whitetailed antelope squirrel, blacktail jackrabbit, and desert cottontail.

Active dunes occupy the largest portion of the Dunes ecosystem. The topography is made up of barchan dunes, crescent shaped dunes with the crests orientated towards the wind and rising up to 300 feet above the desert floor. These Rosita sands are windblown sediment, largely feldspar, with particles ranging in size from 0.125-0.25mm.
Active dune habitat is associated with a variety of the above taxa that use these areas for foraging and travel corridors. This habitat is most closely allied with wildlife found in psammophytic scrub.

Sensitive, Threatened, and Endangered Plants and animals
Tables 1 & 2 represent status species that are known to occur, or are likely to occur in the Algodones Dunes Recreation Area. Following table 2 is a brief description of each wildlife species relationship to the Algodones Dunes Recreation Area.

Table 1.

COMMON NAME	SPECIES	FEDERAL STATUS	STATE STATUS	BLM STATUS	VEGETATION
Borrego milkvetch	*Astragalus lentiginosus* var. *borreganus*	None	None	Sensitive	Psammophytic scrub, active dune
Peirson's Milkvetch	*Astragalus magdalenae* var. *peirsonii*	Threatened	Endangered	Threatened	Psammophytic scrub, active dune
Wiggins' croton	*Croton wigginsii*	None	Rare	Sensitive	Psammophytic scrub, active dune
ribbed cryptantha	*Cryptantha costata*	None	None	Sensitive	Creosote bush scrub
Algodones sunflower	*Helianthus niveus* ssp. *tephrodes*	None	Endangered	Sensitive	Psammophytic scrub, active dune
Palmer's lyrepod	*Lyrocarpa coulteri* var. *palmeri*	None	None	Sensitive	Creosote bush scrub
desert palafox	*Palafoxia arida* var. *arida*	None	None	Sensitive	Psammophytic scrub, active
sandfood	*Pholisma sonorae*	None	None	Sensitive	Psammophytic scrub, active dune

Figure 12 - Sand food

Table 2.

COMMON NAME	SPECIES	FEDERAL STATUS	STATE STATUS	BLM STATUS	VEGETATION
Couch's spadefoot toad	*Scaphiopus couchi*	Sensitive	None	Sensitive	Creosote bush scrub, palo verde
Desert tortoise	*Gopherus agassizi*	Endangered	Endangered	N/A	Creosote bush scrub, palo verde
Colorado Desert fringe-toed lizard	*Uma notata notata*	Threatened	Threatened	Threatened	Psammophytic scrub, active dune
Flat-tailed horned lizard	*Phrynosoma mcalli*	Proposed	None	Sensitive	Creosote bush scrub, blue palo verde
Rosy boa	*Charina trivirgata*	None	None	Sensitive	Creosote bush scrub, palo verde
Burrowing owl	*Athene cunicularia*	Sensitive	None	Sensitive	Throughout
Gila woodpecker	*Melanerpes uropygialis*	None	Endangered	None	Palo verde
Loggerhead shrike		Species of Concern	None	None	Creosote bush scrub, palo verde
Crissal thrasher	*Toxostoma crissale*	None	None	Sensitive	Palo verde
Yuma mountain lion	*Felis concolor browni*	None	None	None	Creosote bush scrub, palo verde

Monitoring Program

Microphyll Woodland Ecosystem Monitoring

The BLM monitors the trees of the microphyll woodlands of the east side of the Imperial Dunes at five-year intervals beginning in fall 2002. The tree monitoring protocol follows the USDA Forest Service Forest Inventory Analysis (FIA) protocols for the Rocky Mountain States that include the Sonoran Desert.

In addition, the shrub, forb, and grass vegetation, down wood, and vehicle tracks are inventoried in the spring of each year beginning in spring 2003 at the same points where the five-year tree monitoring occurs. Comparisons between the OHV Open Areas of the Imperial Sand Dunes Recreation Area and the Algodones Dunes Wilderness make annual comparisons possible between OHV recreation impacts and impacts in the absence of OHV recreation. Biodiversity comparisons between OHV recreation areas and non-OHV recreation areas are also part of the monitoring protocol.

Rare Plant Surveys

There are currently 34 survey transects distributed throughout the Algodones Dunes for plant monitoring. Transects are walked in the wilderness area north of highway 78 and driven by dune buggy South of the

highway. Five hundred forty-two cells, 0.45 miles long, are surveyed on these transects. Special status plant species and their abundance are noted and compared from year to year. This monitoring is currently in the sixth year. In 2002, plant transects were completed in early May. Data from these surveys will be compiled and analyzed during the winter of 2002/2003. Data from the survey years 2001 and 2002 are being entered into databases and will be analyzed soon. A portion of the conclusions from the report for 2000 is quoted below. Refer to the attachment files for a full report.

Conclusions and Recommendations

WESTEC (1977) concluded:

It should be noted that despite the observed impacts of ORV use in the Algodones Dunes, healthy reproducing populations of all seven species surveyed occurred within the dunes. The areas away from major ORV activities, notably in the central dune area between Highway 78 and Interstate 8, appeared relatively undisturbed.

It would appear from the current study that this situation has not changed much if at all since 1977. Healthy populations of all six species remain in the open area, though the above-ground expression of populations of some of these species fluctuates dramatically with precipitation. As noted in Willoughby (2000), all six species were at least as abundant and widespread in 1998 as they were in 1977.

OHV Use Surveys

The Imperial Sand Dunes Lawsuit Over Flight Monitoring was successful this year in documenting the temporary vehicle and camping closures. Photos and GPS data were collected for most of the flights. A total of 29 missions were scheduled, 27 missions were completed, and 2 were aborted after take off for communications failure and returned to the airport. Data was collected by GPS for 21 missions. Most of the incursions that were noted during over flights were in the Tortoise Camping Closure, a total of 40. There were 11 incursions viewed in the Large Central Closure, 10 in the Small Central Closure, and 1 in the Patton Valley Closure. The Plaintiffs were on 100% or all 29 missions, the Interveners were on 72 % or 21 out of 29 missions. The flights cost approximately $1,550.00 per mission or about $45,000.00 for FY 2002.

Currently, BLM arranges for sixteen aerial photo transects each year to monitor OHV use with habitat type. Information gleaned from these data describes OHV use patterns, intensity of use, and distribution and type of habitat. This monitoring is currently in the fifth year. These data along with the 34 rare plant survey transects to monitor impacts. Refer to appendix 2 map 24. Aerial photos from the 2000/2001 and 2001/2002 season will be analyzed during the fall of 2002. Data entry and compiling will take place in the winter of 2002/03.

Amphibians and Reptiles

Monitoring amphibians and reptiles in the Algodones Dunes will be conducted in accordance with the Imperial Dunes RAMP.

Couch's Spadefoot Toad - Weather conditions have not allowed surveys for Couch's spadefoot toad in 2001. As soon as rain pools, we will survey this species. Couch's spadefoot toad is known to occur near Glamis and Ogilby townsites. The methodology for surveying this species is not finalized, but a temporary survey strategy is to be used when sufficient rain falls. This survey strategy relies on the Rare Plant Survey transects on the edge of the Dunes where hardpan crust occurs in conjunction with creosote bush scrub.

Colorado Desert fringed-toed Lizard - Monitoring of the Colorado Desert fringe-toed lizard will continue.

In the spring of 2001, the ECFO began monitoring to establish baseline information with regard to number of Colorado Desert fringe-toed lizards. This project include a comparison of OHV open and closed areas. (see monitoring report 2002). This monitoring has been implemented throughout the dunes on 67 transects.

(2001): A total of 50 transects were selected throughout the Imperial Sand Dunes. The wilderness area to the north of the highway serves as a control, while the OHV open area to the south is the "treatment." Transects measured 725 meters long by ten meters wide, and two people conducted the survey. The data initially collected during the 2001 surveys proved usefull, and are being used to implement long-term monitoring transects. The long-term monitoring transects are currently installed (67) throughout the dunes, and will be completed twice in the spring and fall of 2002. Many Colorado Desert fringe-toed lizards were found on both sides of the highway in 2001, and one flat-tailed horned lizard was found in the wilderness area in psammophytic scrub. (See monitoring report for details)

Figure 13 - Flat-Tailed Horned Lizard in the sand.

Flat-Tailed Horned Lizard – Currently, 10-14 mark-recapture plots are planned in the Imperial Sand Dunes in order to test this method for monitoring viability. These plots will be completed by August 31 2002. Flat Tailed Horned Lizards do occur in this habitat (see map), but the density, or quality of habitat is currently unknown.

Desert Tortoise - As the result of a recent lawsuit settlement, a camping closure has been initiated in this area, (see map). Desert tortoise surveys will be completed by September 30 2002 on the East side of the Imperial Sand Dunes.

Baseline Survey for Gila Woodpecker - BLM staff is conducting each spring an annual survey for Gila woodpecker and other birds of management concern in the microphyll woodlands on the east side of the Dunes. Surveys will focus on the Gila woodpecker but will furnish data on the relative abundance of other bird species as well. With available funding, point count surveys for winter birds will start in December 2002. If and when Gila woodpeckers are found, BLM biologists will determine nest phenology and breeding status. In FY 2003, we will expand searches to determine the breeding status of all raptor species within the Algodones Dunes Recreation Area.

The **Yuma mountain lion** (*Felis concolor browni*) occurs near the edges of the Algodones Dunes Recreational Area. Sightings and signs of the lion are documented to determine the status of this species in the Recreational Area. We have implemented a survey to determine the presence or absence of the Yuma mountain lion. This method uses remote cameras to monitor the use of established water sources by the Yuma mountain lion, burro mule deer, and other species

Taken together, these programs constitute monitoring the ecological function of the Algodones Dunes system, expressed in terms of habitat health, distribution, biodiversity, and the effects, if any, of OHV impacts. Because BLM conducts all surveys throughout the Dunes, surveys conducted in the Algodones Dunes Wilderness Area act as a control for detecting accelerated impacts due to OHV activity. Monitoring reports on fauna and additional recreation activity monitoring are included in appendices with this report.

Visitor Use Monitoring regimen in Open Area MUC (I), (L), & (C)

In addition to the monitoring described above, vehicle counters will sample visitor use of camping/staging areas in the Algodones Dunes Recreation Area. Counters will be placed near the South Dunes at Dune Buggy Contact Station and Buttercup Contact Station. In the north Dunes, counters will be near Cahuilla Ranger Station and Glamis. In the past six months additional closures in the Algodones Dunes have created an additional 50,000 acres of closed area see attached maps. These areas are monitored every Saturday during the OHV season for closure compliance, as noted above.

Figure 14 - The pictures above were taken with a remote camera at wildlife guzzlers in the Dunes.

Resource Protection Program

Law Enforcement

Three of the twleve El Centro Field Office Law Enforcement Rangers are assigned to the Imperial Sand Dunes as their regular patrol sector. El Centro Rangers enforce both State and Federal regulations concerning natural resources in the Dunes. For a full analysis of the El Centro Field Office Law Enforcement program please see Section IV.

Public Education
Law Enforcement Rangers regularly patrol in the Dunes to educate and inform the visitors of the rules and regulations and enforce them as necessary. Park Rangers also have, as a secondary responsibility, ability to alert law enforcement rangers about resource violations that are occurring in the Dunes. They also have a role informing visitors about regulations regarding resource protection, e.g. hunting regulations, firewood cutting, and wildlife trapping and collecting).

Brochures and Maps - The El Centro Filed Office staff has distributed tens of thousands of informational and educational maps and brochures this year. The literature contains information about *Tread Lightly!*, Leave No Trace, the North Algodones Dunes Wilderness, the Algodones Dunes Wildlife Viewing Area, and other recreation related facts. The information is distributed at the Field Office, Cahuilla Ranger Station, information boxes on kiosks in the Dunes, through field contacts, at private businesses, industry shows, over the internet, and through mailings.

Contact Stations - The BLM has several contact stations through out the Dunes. Cahuilla Ranger Station is located in the most heavily visited area on Gecko Road. During the holiday weekends, which have high visitation, we set up temporary contact stations in the Dune-buggy Flats and Buttercup Areas. All three stations provide an opportunity to converse face to face and ask questions. We also distribute maps and literature about resource protection, environmental regulations, and fee demo areas.

Multimedia - Over the past few years our office has been working closely with the Glamis On- Line website administrators. Through their cooperation we have been able to reach a wide variety of visitors through what has become an information clearinghouse. They have information on the latest Dunes issues and take an active role in distributing resource protection information.

Figure 15 - Mom and son help out at CORVA sponsored clean up boot h.

Volunteer Programs

The El Centro Field Office has been the beneficiary of numerous community-based partnerships for natural resource monitoring and protection. Following are the major organizations involved in volunteer partnerships for natural resource protection.

Dunes Patrol - Members of the Dunes Patrol have several duties. One of them is to make personal contacts with the visitors in the recreation area and distribute literature and answer questions. The brochures include information on resource protection and why we need to protect it.

Junior Rangers - To reach out to our young visitors and get them involved with their Public Lands, we have a Junior Ranger Program. There are several classes a month during the OHV recreation season. Subjects include, but are not limited to, *Tread Lightly!,* Leave No Trace, natural and cultural history, wildlife in the area, and desert hikes.

Annual Dunes Clean Up - This annual event has drawn much attention and gained national interest. Each year, 2,000 to 3,000 volunteers participate in this cleanup event. This effort has helped increase public awareness tremendously and has resulted in a feeling of stewardship in the participants and their families.

Glamis On Line / American Sand Association - This non-profit association and its members have assisted the BLM in many ways. They have held several volunteer cleanups in the Dunes throughout the season; volunteered themselves at critical points in the Dunes to promote resource protection and stop OHV use in closed areas; posted information on their web site about resource protection; and even had a plane with a resource protection information banner in tow fly over the Dunes on high use periods. In past years, the Association has also help in logistic transport during rare plant surveys.

San Diego Sierra Club - Volunteers from the Sierra Club assist in monitoring T and E and sensitive plant species

In FY 2003, resource managers are making concerted efforts to recruit more volunteers to support the expanding monitoring and protection programs.

Private Businesses
Most of the private businesses near the Dunes have agreed to display and distribute our BLM resource protection information and provide it to their customers free of charge.

Signing and Barriers
Although no CA OHV green sticker dollars will be used for signing in FY 2003, the El Centro Field Office is continuing maintenance of existing boundary signs. Most signs are for resource protection such as signs for habitat

Figure 16 - These signs, paid for by fee dollars and are at the major entry points.

protection, wilderness protection, limited use areas, closed areas, the East Mesa Areas of Critical Environmental Concern (ACECs) adjacent to the Dunes, and the Flat-Tailed Horned Lizard Management Area.

There are also three informational kiosks located at the major access points. Information about resources, public safety, and emergency is available and on display at these locations. One kiosk specifically addresses and explains the area closure for flat-tailed horned lizard conservation. Visitors can access this information 24 hours a day. If they have further questions, they may contact the BLM at the e-mail or phone numbers given in the literature or on kiosks.

Area Closures for Resource Protection
Approximately 50 percent of the Imperial Sand Dunes Recreation Area is closed to vehicle use, pending final approval of the Imperial Dunes RAMP. The California Desert Protection Act of 1994 has resulted in the closure of the North Algodones Dunes Wilderness (32,000 acres), located in the northern third of the recreation area, to mechanized activity.

Additionally, areas totaling approximately 49,000 acres are temporarily closed in 2002 to protect the Peirson's milkvetch, a federally listed plant species. Four main closures spread out across the Dunes protect the most sensitive plant habitats. These closures are temporary until the RAMP and the proper NEPA documentation are final.

Management Review Process

Adaptive management is central to management actions in the Imperial Sand Dunes Recreation Area. This process is an integral part of the Imperial Sand Dunes RAMP where biological thresholds trigger BLM management responses to undesirable changes from OHV activity.

Wildlife and Habitats
BLM Natural Resource Specialists, John Willoughby (BLM Botonist), Chris Knauf (BLM Wildlife Biologist), Gavin Wright (BLM Wildlife Biologist), Neil Hamada (Dunes Manager), and Jim Weigand (BLM Ecologist) condense and review conclusions in report form annually. This assessment determines any adverse impacts. If adverse impacts are identified, the evaluation team makes recommendations to Greg Thomsen, the Field Manager. On a case-by-case basis, the Field Manager determines what measures are necessary to correct the adverse activities or impacts. Corrective measures are specific to the issue to meet the BLM mission which is "to sustain the health, diversity and productivity of the Public lands for the use and enjoyment of present and future generations".

Plants
If rare plant surveys and OHV aerial photo surveys detect declines that can be attributed to OHV use, and / or OHV use patterns, BLM managers will assess those areas to determine the appropriate adaptive management actions. Analysis of the data on plant population surveys in 2001 and 2002 will detect whether populations have declined in excess of thresholds set by BLM managers.

Reptiles
Relative abundance of reptiles has been gathered since the summer of 2001. These indices are used to set a baseline in OHV recreation area and in non-OHV recreation areas for reptile populations and for comparing impacts across a range of intensities of OHV recreation use. If reductions in populations are deemed significant, those areas with reductions are evaluated for the appropriate adaptive management actions.

Amphibians
Because rains come infrequently to the Dunes, amphibian monitoring has to be opportunistic. Therefore, monitoring amphibians as an indicator species for adaptive management purposes is impractical. However, we continue to search for amphibian populations when there is rain. At present, we do not know how to monitor them in statistically valid ways to be meaningful to BLM managers.

Birds
Bird surveys in the microphyll woodlands include the mapping of microphyll woodlands and individual trees to track the presence or breeding status and population numbers of the Gila woodpecker, loggerhead shrike, burrowing owl, prairie falcon, merlin, crissal thrasher, and LeConte's thrasher. Baseline data on the relative abundance of these species is being gathered in 2002, the first year of surveys. Indices in non-OHV use areas are compared to those areas most frequently used by OHVs. If reductions in populations are deemed significant, those OHV areas will receive appropriate adaptive management actions based best available science information.

Mammals
The only status mammal that may occur in the Algodones Dunes recreation area is the Yuma mountain lion. Over time, new sightings and signs of this mammal, if any, will be compiled with the intent of developing a plan that will protect those areas used most by this species.

Soil Loss Plan

Available information regarding soils in the ISDRA is limited. General soil surveys are not available, but many research papers have been written on the soil/sand strata associated with this area. Due to the unique nature of sand dunes in general, little information is available on monitoring. However, sustained monitoring of habitat found within the dunes and edges produces a more than reasonable set of data for detecting changes in habitat size, distribution, and health. Generally, as dunes are used by OHVs, sand from the top of the dune is deposited down to the bottom. During high winds the sands are re-deposited at the top of the dune creating a steeper slip face.

The Desert Lawsuit from the Center for Biological Diversity has resulted in closures to all vehicle use on approximately 49,000 acres. Although this closure was implemented for the protection of plant species, it also provides the highest form of soil conservation by removing almost all unnatural motorized vehicle use. Since closure, the only vehicles legally allowed in the dunes closed area are vehicles used in the T&E plant surveys or used to rescue surveyors.

VI : DETAILED COST SUMMARY

A. OPERATIONS & MAINTENANCE

1) STAFF	Salary/hr	Term/Days	Total Cost	BLM Contributed	Grant Request
Dunes Manager	$35.64	2,080 hrs	$74,000	$44,000	$30,000
Assist. Dunes Manager	$25.48	2,080 hrs	$53,000	$18,000	$35,000
Permanent Park Ranger	$20.20	2,080 hrs	$42,000	$12,000	$30,000
Outdoor Rec. Planner	$25.48	520 hrs	$13,000	$0	$13,000
Permanent Park Ranger	$17.31	520 hrs	$9,000	$0	$9,000
10 Seasonal Park Rangers	$16.22	1039 hrs / ea	$168,000	$0	$168,000
Overtime	$27.60 (average)	2,500 hrs	$69,000	$0	$69,000
Travel / training		Annually	$95,000	$20,000	$75,000
2) CONTRACTS	**Salary/hr**	**Term/Days**	**Total Cost**	**BLM Contributed**	**Grant Request**
Trash dumpsters		Annually	$160,000	0	$160,000
Vault toilet cleaning		Annually	$35,000	0	$35,000
Vault toilet pumping		Annually	$35,000	0	$35,000
Trailer rental		Annually	$12,000	0	$12,000
3)MATERIALS & EQUIPMENT	**Salary/hr**	**Term/Days**	**Total Cost**	**BLM Contributed**	**Grant Request**
Vehicles		Annually	$300,000	$200,000	$100,000
Safety gear		one time purchase	$210,000	$200,000	$10,000
Preliminary Alcohol Screening (PAS) Device		12 ea	$8,000	$0	$8,000
Radar speed guns		2 ea	$8,000	$0	$8,000
Subtotal Operations & Maintenance			**$1,291,000.00**	**$494,000.00**	**$797,000**

B. LAW ENFORCEMENT

1) STAFF	Salary	Term/Days	Total Cost	BLM Contributed	Grant Request
Chief Ranger	$49.70	1,500 hrs	$76,000	$60,000	$16,000
2 Supervisory Rangers	$29.73	4,000 hrs	$119,000	$75,000	$44,000
2 Sector Rangers	$26.21	4,000 hrs	$105,000	$35,000	$70,000
Holiday law enforcement	$38.09	105,000 hrs	$4,000,000	$3,850,000	$150,000
832 PC Training		4 Rangers	$2,000	$0	$2,000
ATV instructor safety training		2 Rangers	$2,000	$0	$2,000
Radar speed gun training		4 Rangers	$8,000	$0	$8,000
DUI – blood / urine testing			$500	$0	$500
Subtotal Law Enforcement			**$4,312,500.00**	**$4,020,000**	**$292,500.00**

C. CONSERVATION

1)PLANT & WILDLIFE SECTION OF WHPP	Salary	Term/Days	Total Cost	BLM Contributed	Grant Request
Lead Wildlife Biologist	$31.72	1,500 hrs	$48,000	$10,000	$38,000
Wildlife Biologist	$20.09	1,500 hrs	$30,000		$30,000
Natural Resource Specialist	$24.57	1,500 hrs	$37,000	$12,000	$25,000
6 ECOs	$18.20 ea	1,000 hrs/ea	$109,000		$109,000
Vegetation monitoring contract			$30,000		$30,000
Bird survey contract			$50,000		$50,000
Aerial photography			$20,000		$20,000
Supplies			$5,000		$5,000
Weather station maintenance			$5,000		$5,000
2) SOIL SECTION OF WHPP					
Subtotal Conservation			**$334,000**	**$22,000**	**$312,000**
Total A, B, C			**$5,937,500**	**$4,536,000.00**	**$1,401,500**
D. INDIRECT ADMIN. (10% or less)					
Public Contact Person	$16.22	1500 hrs	$24,000	$19,000	$5,000
TOTAL Grant Request					
TOTAL ROUNDED			**$5,961,500**	**$4,555,000**	**$1,406,500**

Dunes Manager and Assistant Dunes Manager - These line items pay for the partial salaries for the positions above. The Dunes Manager works in the ECFO and oversees most dunes activities. The Assistant is a new position and he/she will be a resident at Cahuilla Ranger Station. He/She will oversee the "on the ground" activities and also serves as lead for the seasonal staff.

Park Rangers - The 12 Park Rangers are responsible for implementing the visitor services and EMS/Rescue programs. They patrol and work cooperatively with the law enforcement staff. They also set up and staff the Ranger Station and portable emergency contact stations at Dune buggy Flats, and Buttercup.

Figure 17 - Medical aid provided by BLM at approx. 850 incidents per year.

Overtime – The overtime line item pays for holiday EMS and visitor services. When visitation peaks on the holiday weekends the non-law enforcement staff also receives help from outside the area. This item funds overtime for Park Rangers and the staff who are detailed to the area for the holidays. These individuals essentially work as Park Rangers during the weekends.

Vehicles - This item partially funds the four-wheel drive vehicles that all staff uses to patrol the area. These vehicles are either an SUV or pick up truck with emergency lights and radios.

Lead Wildlife Biologist and Wildlife Biologist - These line items pay for the partial salaries for the positions above. The Lead Biologist works in the ECFO and oversees most dunes activities involving wildlife. The Wildlife Biologist oversees the "on the ground" monitoring activities and also serves as lead for ECO program

Natural Resource Specialist – Position supports monitoring program and ECO's for the ISDRA. Currently this position is vacant.

6 ECOs – Pays for the salaries for the Contractors(ECO'S) that perform all field monitoring for the Imperial Sand Dunes Recreation Area. ECO's collect, record, and analyze all data in the ISDRA.

Public Contact Person – Pays for partial salary of the public contact person in the ECFO. Duties involved are answering all telephone questions regarding the ISDRA. Also performs educational outreach and Jr Ranger Program for the local and regional areas of Southern California.

Safety Gear - Several items of equipment have been identified for procurement using OHV grant money. This equipment will be used to cover a range of goals the BLM is attempting to achieve in the Imperial Sand Dunes Recreation Area (ISDRA). Items, such a OHV safety riding gear, are intended to provide basic safety equipment for officers while they are driving OHV's.

Other safety equipment will be used to enhance our officers' abilities to enforce the laws, rules and regulations in effect in the ISDRA. These items include such things as cameras that are needed for successful prosecution of certain violators.

Other items ranging from road flares to spot lights are necessary for the safe handling of law enforcement and contacts. The El Centro office has increased its ranger staffing level and has lost veteran officers and hired new officers. Some of this equipment is intended for initial issue and training of new officers and some equipment is intended to replace broken, expended or outdated equipment.

COST SUMMARY 2002/2003

Costs by OHV Recreation Area

Expenditure Type	Field Office	Unit A	Unit B	Unit C
Staff	$727,000	$0	$0	$0
Contracts & Services	$456,000	$ 0	$ 0	$ 0
Materials & Supplies	$17,500	$0	$0	$0
Vehicles	$100,000	$ 0	$0	$0
Equipment	$26,000	$ 0	$ 0	$0
SUBTOTAL	**$ 1,326,500**	**$0**	**$0**	**$0**
Administration (10%)	$5,000	$0	$0	$0
TOTAL=	**$1,331,500**	**$0**	**$0**	**$0**
Total Request (Rounded)	**$1,407,000**	**$0**	**$0**	**$0**

TOTAL REQUEST = $1,407,000

Agency Contribution =	**$4,555,000**	**$0**	**$ 0**	**$0**

AGENCY TOTAL = $4,555,000

Previous Year's Request =	**$ 1,358,000**	**$0**	**$0**	**$0**
Previous Year's Request Total =	**$1,358,000**			
Last Year's Allocation =	**$1,034,000**			

PROJECT EXTENSION JUSTIFICATION – no extension requested at this time.

FUNDING PRIORITIES – one of two from the BLM El Centro Field Office.

VII: ENVIRONMENTAL DOCUMENTATION

National Environmental Protection Act (NEPA)

The California Desert Plan with Amendments is the most overarching NEPA authority for BLM management of the Imperial Sand Dune Recreation Area. The CDCA Plan divided the California Desert District (CDD) into planning units for designating the appropriate "Multiple Use Class" derived from considerations of the natural resources, desired uses, and management direction. The planning unit 103, Map 1A within the El Centro FO pertains to the Algodones Dunes (Imperial Sand Dunes). A general explanation of the natural resources and management direction can be found in Chapters 2 & 3 of CDCA. Please see attached NEPA DNA documentation.

Imperial Sand Dunes Recreation Management Plan of 1987 is an environmental assessment that currently covers management by BLM in the Dunes. However, a draft environmental impact statement accompanying the Recreation Area Management Plan (RAMP) will supersede the 1987 Plan and amend the CDCA Plan. The draft is under public review and comment; the final EIS and Plan are scheduled for publication in October 2002.

California Environmental Quality Act (CEQA)

Impacts on Wetlands, Navigable Waters, and Sensitive Habitats

The projects for which we are requesting funding are not new infrastructure projects. They do not affect small wetlands such as open wildlife guzzlers or navigable bodies. The nearby Coachella Canal and the All-American canals are not navigable bodies of water.

Sensitive habitats in the Imperial Sand Dunes are psammophytic desert scrub and microphyll woodland (refer to Section V: Conservation Activities). No water control devices or heavy equipment operation are part of the funding for this grant application. Resource protection is a priority for Law Enforcement Officers in the Imperial Sand Dunes. Funding for vigilant oversight of resources enables BLM to patrol these sensitive habitats and to have a presence in them visible to the public.

Cumulative Effects of Other Projects in the California Desert District, the El Centro Field Office, and the Imperial Sand Dunes

The passage of the California Desert Protection Act of 1994 withdrew 48 percent of the BLM lands (6.4 million acres) in the BLM California Desert District open to Green Sticker vehicle access because of wilderness designations and land transfers to the National Park Service (Off-Highway Motor Vehicle Division, 2002). Loss of opportunities for OHV recreation in California deserts means that the supply of dune environments for legal OHV recreation has become scarcer. Consequently, OHV recreation in the Imperial Sand Dunes has increased substantially since 1994. Increased public recreation from withdrawals in other areas is leading to increased OHV recreation use and impacts to natural resources in the Imperial Sand Dunes.

The US Border Patrol has increased its surveillance of borderlands along southern Imperial County, including the Imperial Sand Dunes. The Patrol also drags lines of cement-filled tires over the dune terrain

to trace tracks of undocumented aliens as they cross the border from Mexico. These activities add to the disturbance to native vegetation from OHV recreation.

Unusual Circumstances such as Steep Slopes and Highly Erodable Soils
The forefronts of dunes typically are steep, with slopes frequently greater than 45 degrees. Dune sands naturally shift as winds blow over the dunes. Intense windstorms naturally move large quantities of sand. Wind quickly erases motorized tracks across dunes. Soils in washes and in bajadas on the eastside of the Dunes come from the Chocolate and Cargo Muchacho mountain ranges have both have higher clay content and coarser gravel content than the Rosita sands found in the dunes. Clay from periodic rainstorms forms a physical crust over soils in the washes and bajadas and at the base of dune fronts. These clay crusts contribute to stabilizing underlying soil from blowing away. Steep slopes or erodable soils will not be disturbed with any project in the grant application.

Potential Damage to Scenic Resources Within the View Shed of a State Scen ic Highway
There are no state scenic highways near the Imperial Sand Dunes Recreation Area.

Production of Hazardous Materials
Gasoline, oil-gas mixture, propane for motor homes, diesel fuels, are consumed but not produced in the Imperial Sand Dunes by OHV recreational enthusiasts. Accidental releases of fuels, oil, and grease from camping and OHV recreation activities may occur. BLM has in place an information program to alert visitors to the Imperial Sand Dunes to safety procedures regarding hazardous materials in common use.

Adverse Changes in the Significance of Historical or Cultural Resources
Most of the Imperial Sand Dunes Recreation Area has an incomplete inventory of historical and cultural resources. References to Native Americans in the archeological and cultural anthropological literature are sparse. Historical (post-European arrival) inventories are not documented. Interviews with Native Americans have revealed concerns about (1) potential damage to known and as yet undiscovered cultural resources and (2) damage from OHV recreation to culturally important plants and animals (EDAW, Inc., 2002). A separate grant application from the BLM archaeologist at the BLM El Centro Field Office in FY 2002 intends to address the gaps in knowledge about cultural resources, both Native American and historic, in the Dunes Recreation Area. Projects in this grant request do not directly affect any known historical or cultural resources.

SECTION VIII: PUBLIC INVOLVMENT

We have only received a few public comments to date. Information was requested for the law enforcement safety supplies and fee demo dollars. The law enforcement safety gear description has been added. The fee demo funds are already included in the application under the BLM contributed column in the cost analysis.

As of this time we have not received any letters of support or opposition. However we expect to receive letters between the submission of this application and the December Commission meeting. These letters will be forwarded to the Division as soon as possible

The following was released to the public on June 14th, 2002

> The Bureau of Land Management (BLM) has scheduled an open house to obtain public comments on the Off_Highway Vehicle (OHV) grants being submitted to the California Department of Parks and Recreation, Off_Highway Motor Vehicle Division. The open house will be held at the BLM California Desert District Office in Riverside on Tuesday, June 25, from 3:00 p.m. to 8:00 p.m. The District Office is located at 6221 Box Springs Blvd., Riverside, CA 92507.

Public comment is needed on all grants being submitted to California State Parks by the BLM California Desert District's five field offices as part of the grant application process. BLM staff will be available to discuss/provide information specific to the grant application(s). Members of the public also may contact the following BLM representatives directly to obtain a copy of the OHV grant proposal submitted by their office: John Bierk, Needles Field Office 760_326_7000; Craig Beck, Ridgecrest Field Office (760) 384_5400; John Kalish, Palm Springs_South Coast Field Office (760) 251_4800; and Neil Hamada, El Centro Field Office (760)337_4451.

If you cannot attend the meeting and would like a copy of a grant proposal, please call the appropriate BLM field office for a copy. If you have any additional questions on grants, please call Ira Long at 909_697_5396.

Individual E-mail, containing the above text was also was also sent to :

Harriet Allen, Jimarbo@aol.com, george.barnes@sierraclub.org, Danafbell@cs.com, offroad4fun@integrity.com, jimmieb1@earthlink.net, SDOBSESSED@cs.com, glamisonline@earthlink.net, Larry Caffey/CASO/CA/BLM/DOI@BLM, RACEGRAFX@aol.com, JustinC@cts.com, pdavi@parks.ca.gov, RDenner1@aol.com, KingGlamis@aol.com, erin@corva.org, Jeriferg@aol.com, "FIDEL@ORCOFFICE" <fidel@tecate.off-road.com>, Greg.Gorman@telelogic.com, daphnegreene@twende.com, bobham1@earthlink.net, nhkc@mindspring.com, edieharmon@juno.com, LIBERTYM@mindspring.com, elden.hughes@sfsierra.sierraclub.org, desertguy1@aol.com, ljowdy@aol.com, klusman@syix.com, lland@parks.ca.gov, RDenner1@aol.com, Rwmskm@aol.com, jim@jmcgarvie.net, demeyer@mail.telis.net, lauramitchell9@yahoo.com, Kristin_Munjko@ahm.honda.com, KRosewitz@aol.com, Carla Routt <LBMPtopper@aol.com>, James Branham <JIMMIEB@ns.net>, Carol Monahan <KF6EFN@pacbell.net>, John Elliott <103500.1331@compuserve.com>, Ron Schiller <schiller@ridgecrest.ca.us>, Don Amador <112531.1311@compuserve.com>, Ken Harris <docharris@prodigy.net, bo>

PROJECT ACCOMPLISHMENTS REPORTS (PARs)

Project Accomplishment Report

FY01

Agency	Bureau of Land Management
Unit	El Centro Field Office, Imperial Sand Dunes
Time Period	**Oct. 1, 2000 – Sept. 30, 2001 (FY01)** Date Aug 1, 2001

OHV Grant #OR- 1-CD-230 **Grant Title** El Centro O&M 2001

I. OHV Opportunity

Acres of land available for OHV and OSV recreation		68,695
Acres of land available for trails only OHV recreation	N/A	
Acres of land available for open OHV recreation.	68,695	
Miles of motorcycle trail	N/A	
Miles of ATV trail	N/A	
Miles of 4 wheel drive routes	N/A	
Miles of level 2 type roads	N/A	
Total miles OHV routes		N/A
Acres available for open snowmobile use	N/A	
Miles of groomed snowmobile routes	N/A	
Miles of ungroomed snowmobile routes	N/A	
Miles of unmarked snowmobile routes	N/A	
Total miles of OSV routes		N/A

II. Conservation activities

1. Miles of OHV routes repaired.	N/A
2. Miles of volunteer routes closed and rehabilitated.	N/A
3. Acres of "open" land closed and rehabilitated.	81,305

III. Volunteer information

1. Volunteer hours contributed.	2,365
2. Estimated value of volunteer labor	33,178

IV. Visitor assistance information

1. Number of OHV visitors (any portion of a day is one visitor)*	1,484,071
2. Total number of OHV visitors contacted/assisted	122,040
3. Number of OHV injury accidents**	115
4. Number of OHV related fatalities	2

*****This amount has increased substantially. In March 2001 we installed new traffic counters and increased the number of locations where counts are collected. We feel this has resulted in an increased accuracy for visitation data and use patterns. Since these counters were installed near the end of the use season, we feel that the number will increase substantially next year as well. FY 2002 will be the first full year of visitor counts with the new counters.

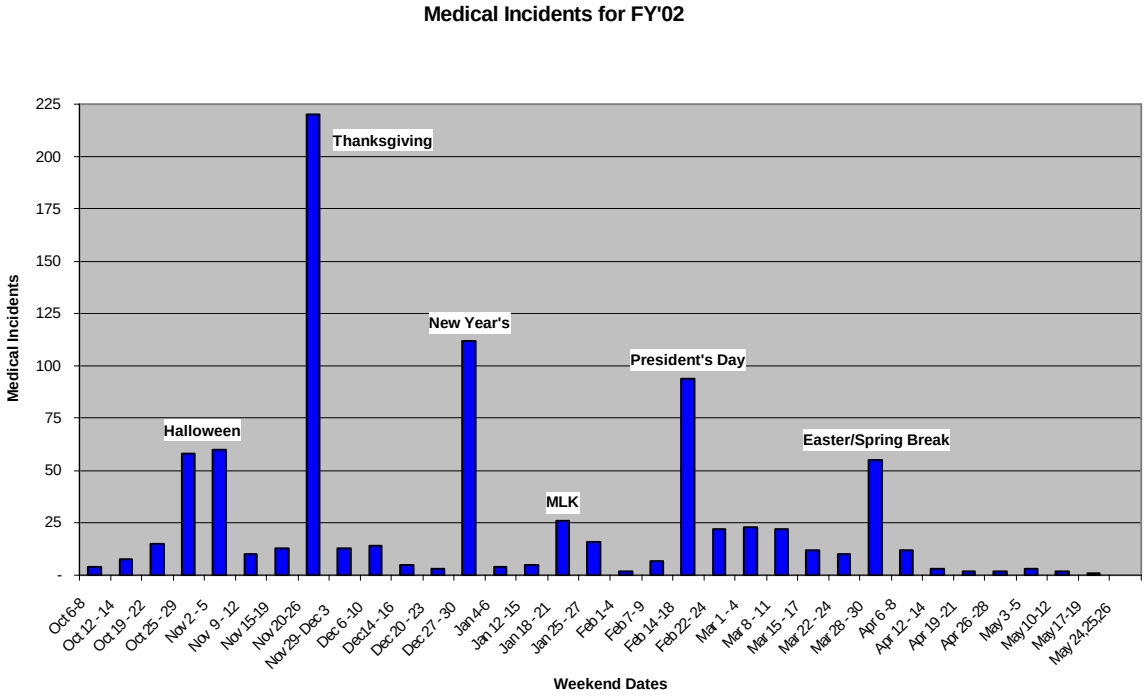
**Due to better record keeping, FY02 is up to approx. 450 serious incidents and 400 minor ones.

V. **Law Enforcement**	Citations	Warnings	Arrests	Compliance	# Contacts
Registration	250				
Spark arrester	0				
Noise	0				
Resource damage	3				
Trespass	0				
Wilderness intrusions	4				
Other	2,732		160		
Total	2,989		160		

Description of Annual Accomplishments –

- **Dumpsters** – 40 yard dumpsters are placed every week at trash collection stations throughout the dunes. There are 11 established sites and multiple bins are placed at each site to accommodate the volume of waste. Some sites ha ve up to 10 bins and they continue to get full. BLM has tried to accommodate the large number of visitors by ordering more bins but requires funding to do so.
- **Toilets** – The pit toilets in the dunes were install with previous OHV trust fund grants. With continued OHV grant funding, the BLM will continue to maintain these toilets to an acceptable level. Toilets are regularly cleaned weekly and daily during the holidays. The units are pumped on an as needed basis.
- **Trailer Rental** – Trailer rental provides housing for the two permanent staff members that reside at Cahuilla Ranger Station. One of the residents is an EMT and the other is a delegated law enforcement officer. These employees respond to after hour calls throughout the visitor season.
- **EMS/ Visitor services** – With funding from last years OHV grant, the BLM hired and Trained 9 seasonal Park Rangers in visitor services and emergency medical services. During FY 2002 we estimate that approximately 1 million visitors were contacted at our information stops. Visitors were given "safety bags" that contained literature and maps about the rules and regulations, natural resource protection, and recent closures. These Park Rangers staff the ranger station and patrol the area on Friday – Sunday. They also perform maintenance duties on Thursday and Monday such as cleaning toilets, painting, trash pick up, minor repairs, and signing. Our Park Rangers also provide medical aid / rescue services throughout the dunes. During the FY 02 season, the BLM responded to approximately 400 serious medical aid calls and another 450 minor incidents. Park Rangers work a four day / 10 hour shift during the normal weekend and no less than 12 hours per day during the holidays weekends.

Figure 18 – BLM EMS / Visitor Services 2002 crew.



- **Law Enforcement –** The El Centro Field Office has a staff of three delegated law enforcement rangers for the Imperial Sand Dunes to conduct regular patrols. During the OHV season, these rangers will patrol the ISDRA during the week in eight- to ten-hour patrols. On weekends, four to six rangers will be in this area on eight- to ten-hour patrols. Shifts may vary from early morning to late at night. During major holidays, the area will be patrolled approximately 20 hours each day. This schedule will require between 75 and 150 officers, depending on the holiday. There will be approximately 3,000 citation issued and 150 people arrested for various crimes.

Conservation –

· **Birds –** Point count surveys for presence/absence will occur late winter/spring and last 3-4weeks. Four full time surveyors will conduct the surveys during the allotted time. Surveys will occur at designated points on the eastside of the dunes in microphyll woodland habitat. An annual report will be written at the end of the year.

- **Colorado Desert Fringe Toed Lizard** – Abundance surveys will occur twice a year, once in the spring and once in the fall, lasting 4-6weeks. Four to six full time surveyors will conduct these surveys during the designated time period. There are 76 transects (0.45mi x 10m) distributed throughout the ISDRA. An annual report will be written at the end of the year.

- **Flat Tailed Horned Lizard** – Mark-recapture surveys will occur in the spring/fall and last 8-12 weeks. Future scheduling will depend on 2002 results. Four to five full time surveyors will conduct these surveys during the allotted time period. There will be 10-14 plots (200x200m) completed with in the ISDRA. An annual report will be written at the end of the year.

- **Desert Tortoise** – Presence/absence surveys will occur in the spring or fall and last 3-4 weeks. Two full time surveyors will conduct these surveys during that time period. Surveys will take place on the east side of the dune system in the microphyll woodland and creosote bush scrub. An annual report will be written at the end of the year.

- **Rare Plant Surveys** – Abundance surveys will occur in the spring and will last 2-3 weeks. Future scheduling will depend on 2002 results. Eight to ten full time surveyors will assist in surveys during the allotted time. An annual report will be prepared at the end of the year.

- **Yuma Mountain Lion** – Remote camera monitoring surveys will occur year round at three of the guzzlers located in the North Algodones Wilderness. Two surveyors will complete the weekly film exchange and camera maintenance. An annual report will be written at the end of the year.

- **Amphibians** – Presence/absence surveys will occur based on per precipitation incident and will last one week. Two surveyors will conduct the survey after a significant rain event. An annual report will be written at the end of the year.

SECTION X: EQUIPMENT INVENTORY

List by Field Office:

MAKE	MODEL	YEAR	VIN/ID	MILES	HOURS
Honda	TRX250X	1988	JH3TE1300JK103797		
Honda	TRX250X	1988	JH3TE1306JK103898		
Honda	TRX250X	1988	JH3TE1305JK103875		
Yamaha	YMF350 Warrior	1993	JY43GDAO5PAO97679		
Yamaha	YMF350 Warrior	1993	JY43GDAO8PAO97682		
Yamaha	YMF350 Warrior	1993	JY43GDAO2PAO95274		
Case	821B Loader	1994	JEE0040780		1513
Case	850G Dozer	1994	XX0794-0300-072X		1565

Bibliography / Literature Cited:

EDAW, Inc. 2002. An assessment of the Imperial Sand Dunes as a Native American cultural landscape: preliminary report. 92 p.

Off-Highway Motor Vehicle Recreation Division. 2002. Taking the high road: the future of California's Off-Highway Vehicle Recreation Program. Sacramento, CA: California Department of State Parks. 98 p.

USDA, Agriculture Soil Conservation Service. 1981. Soil Survey of Imperial County, California.112 pp.

FIGURE A.2 Instructions for Colorado Desert Fringe Toed Lizard Field Form:

Surveyors: Initials of all surveyors for transect
Air Temp Start/End: Temp 1cm above sand (bulb 1cm above the ground)
Surface Temp Start End: Temp on the surface (bulb on the surface)
GPS Start End: Decimal Please, xxx.xxxx
Comments: Make flora observations with regard to habitat, i.e. mix of creosote bush scrub and psammophytic scrub, estimate percent cover of both. Any other comments applicable to transect, OHV activity, trash, condition of vegetation (damage), vehicle tracks, etc.

#: Observation #: If you flush six lizards in one observation, they all get a line on the data sheet, but all six would get the same observation number. If it was the fourth observation, all six would get the number 4.
SP: First Four Letters In Common Name. U for unknown (not too many of these).**AGE:** (S)ubadult or (A)dult. Six inches is the cutoff between (S) & (A)
HAB: Habitat in which the lizard was flushed from. 1. Psammophytic scrub. 2 Active dune. 3. Creosote bush scrub. 4. Microphyll woodland (rare, interspersed with active dune and / or psammophytic scrub and creosote bush scrub (estimate percent in **Transect Comments**, example: 2/40%, 1/60%). Use only one number when typing habitat in HAB column (dominant).
PHB: Physical habitat. 1. bowl 2. dune face (looking up from bowl) 3. dune ridge 4. sandy flat
ASP: Aspect the habitat is facing, in degrees. Example: Wherever you are in the dunes, more horizon is visible in one direction, i.e., the gentler slope will open to more sky than the others.
BT: Broken tail, 1 yes 2 no, U unknown
SUB: Substrate the animal was on. 1. sand 2. vegetation (litter).
Cover/shade: What the animal is under. 1 sand 2 vegetation 3 none. U unknown/ Shade 1 yes, 2 no U unknown. Vegetation cover is counted if the lizard is under it, regardless of height.
Mileage/Comments: Mileage the observation was taken according to the GPS unit. Any interesting observations. Comments should note what the lizard was doing before you flushed it, not where it went after you flushed it. Example: If you see a lizard come out of the sand the SUB is 1 and the cover is 1. You may often see lizards coming out of the vegetation as well. Attempt to determine what the substrate and cover were. Any transect where >10% of the total area is covered by any habitat other than active dune or psammophytic scrub will be thrown out.

APPENDIX A
MONITORING REPORT

Include your annual monitoring report in this section. *4970.10(d)(8), 4970.13(c)(3)(A), and 4970.31(c)(8)*

Monitoring Report 2001-2002

Plants
Rare plant surveys were conducted in 2001 and 2002. Data from 2001 is currently being analyzed at the State Office, while 2002 data is currently being entered. These surveys targeted Peirson's Milk-Vetch, the Algodones Dunes Sunflower, and Sandfood.

In 2002 the BLM used a distance sampling method, as well as traditional monitoring methods, in an attempt to assess population desnsities. This method requires all transects to be walked, where in the past transects have been walked in the Wilderness Area and driven in the South Dunes. If data indicates this method is viable, and funding is available, all transects will be walked in the future, leading to a better sampling method and a more accurate means of detecting a change population status.

Amphibians
Couch's Spadefoot Toad (*Scaphius couchii*)

3 areas approximately 2 miles NW of Ogilby Camp were surveyed in 2001. No toads were found, but surveys will continue again when rainfall events cause pooling water.

Reptiles
Colorado Desert Fringe-toed Lizard (***Uma notata***)

In 2001, 50 survey transects were completed for spring and fall in order to estimate the density of Colorado Desert fringe toed lizards (*Uma notata*) in a comparison of open and closed areas in terms of OHV use. The Algodones Dunes Wilderness Area was used as a control, while the open area to the south was used as a treatment. Using the grid established by the WESTEC Study of 1977 (WESTEC 1977), 0.45 mile square cells on the grid were selected using simple random sampling (SRS) after the elimination of habitat not entirely consistent with *Uma notata,* i.e., microphyll woodland, creosote bush scrub, and any cells within 0.45 miles of a road (Gecko Road and State Highway 78).

The first 60 Cells were then numbered (south to north in closed area, north to south in open area) in a snaking pattern before SRS was applied. Transects were 0.45 mile long and 10m wide belts. Surveyors were evenly spaced, and navigated the transects using Garmin III GPS units on NAD 83 Map Datum from west to east using the northwest to northeast grid lines. Transects were alternated from open to closed areas in order to avoid weather bias, and were also completed when surface temperatures were at or between 35-44 degrees Celsius. Transects were not completed if (1) OHV activity was observed on the transect or (2) high wind speeds and lifting sand obstructed surveyors' ability to detect the lizard.

Two surveyors tapped the ground with 2.5m bamboo sticks in front of them while surveying in order to flush lizards. Microhabitat data was collected in addition to lizard numbers; this data included type of cover used, type of escape cover used, surface temperature, physical habitat (bowl, slip-face, dune ridge, sandy flat), habitat (active dune, psammophytic scrub), aspect, age (adult, sub-adult, hatchling), substrate the lizard was on, slope (degrees), and species. Approximately 99% of lizards observed were *Uma notata.* Results from these surveys are currently being analyzed.

A similar monitoring protocol will be implemented following plan completion. In addition to applying this protocol to the wilderness area and the open area immediately south of Highway 78, monitoring transects will also be established in the Mammoth Wash area, the Adaptive Management Area (AMA) and in the open area south of the AMA. Fewer transects per area will be read than the number read in 2001, since preliminary analysis of the 2001 data indicate that sufficient precision can be obtained with a lower number of transects. For those areas sampled in 2001, a subset of the transects run in 2001 will be selected according to a random design (i.e., either simple random sampling, systematic random sampling, or restricted random sampling) for future measurement. For those areas not yet sampled, the WESTEC grid will again be used as described above, with transects positioned using a random design.

Sampling objectives. Sampling objectives for the Colorado Desert fringe-toed lizard are as follows. (1) For yearly estimates: sampling will be designed to achieve yearly estimates of lizard density that are within 50% of the true lizard density at the 95% confidence level within each of the 5 monitoring areas. (2) For change detection: sampling will be designed to detect a change in lizard density between any two years of 50%, with false-change (Type I) and missed-change (Type II) error rates of 0.05 and 0.90, respectively. These sampling objectives may be modified based on pilot sampling.

Annual Monitoring Report 2001 (DRAFT)

A DRAFT COMPARATIVE ANALYSIS OF COLORADO DESERT FRINGE TOED LIZARD *Uma notata* POPULATIONS IN OHV OPEN AND CLOSED AREAS OF THE ALGODONES DUNES, IMPERIAL COUNTY, CA.

Author: Christopher R. Knauf/Natural Resource Specialist, Bureau of Land Management, El Centro CA.

Study Area: The study area consisted of active dune and psammophytic scrub directly north and south of the State Highway 78 in the Algodones Dunes (Imperial Sand Dunes Recreation Area.

Materials & Methods: In the spring and fall of 2001, we used 50 survey transects to estimate the density of Colorado Desert fringe toed lizards (*Uma notata*). We designed the transects to compare lizard populations in open and closed areas. The Algodones Dunes Wilderness Area served as a control, while the open area to the south of State Highway 78 was the treatment area. First, we eliminated habitat polygons that were atypical for *Uma notata*, i.e., microphyll woodland and creosote bush scrub. To eliminate road edge effects, we also excluded are lands within 0.45 miles of a road (Gecko Road and State Highway 78).

The first 60 cells had numbers (arranged south to north from Highway 78 in closed area of the Algodones Dunes Wilderness, and north to south from the highway in the OHV open area) in a snaking pattern. With the grid established by the WESTEC Study of 1977 (WESTEC 1977), we selected 725 meter square cells by simple random sampling (SRS)
Within each selected cell, we placed belt transects 725 meters long and 10m wide. Surveyors were evenly spaced, and navigated the transects using Garmin III GPS units on the NAD 83 Map Datum from west to east using the northwest to northeast grid lines. Transect sampling alternated between open and closed areas to avoid weather bias. We sampled transects only when surface temperatures ranged between 35 and 44 degrees Celsius. Transects were left incomplete when (1) we observed OHV activity or pedestrian traffic on the transect or (2) high wind speeds (> 32.0 km/hr) and lifting sand obstructed surveyors' ability to detect lizards. Twenty-five transects were completed twice, spring and fall, in the OHV open and closed areas.

Two surveyors tapped the ground with 2.5-m bamboo sticks in front of them to flush lizards. Microhabitat data were collected along with lizard numbers. Data collected included type of cover used, type of escape cover used, surface temperature, physical habitat (bowl, dune slip-face, dune ridge, sandy flat), habitat (active dune, psammophytic scrub), aspect, age (adult, sub-adult, hatchling), substrate the lizard was on, slope (in degrees), and species. Approximately 99% of lizards observed were *Uma notata.*

Results:

Spring Surveys	OHV Open	OHV Closed
Mean number of Lizards/Transect **U. notata**	3.8	9.3
Total number of lizards observed **U. notata**	95	233

Fall Surveys	OHV Open	OHV Closed
Mean number of Lizards/Transect **U. notata**	5.7	12.4
Total number of lizards observed **U. notata**	143	310

A two-sample t-Test, paired, two-tailed, with unequal variance, was performed on each data set.

Spring: p=.05, t-test statistic = $7.67*E^{-05}$
Fall: p=.05, t-test statistic =$3.43*E^{-05}$

Discussion: Final results from these surveys are being analyzed, but preliminary results indicate a significant difference in lizard populations between the OHV open and closed areas. The mean number of lizards detected during spring and fall surveys in the OHV closed area was greater than twice (2.3) the number detected in the OHV open area.

60% of the lizards during spring and fall surveys used vegetation as escape cover when surveyed, indicating a strong relationship between plant and lizard densities. Although numbers were comparatively low in the OHV open area, lizards appear to be utilizing this area for habitation and breeding, an indication that this species is not completely bottlenecked between the OHV open and closed areas north and south of highway.

The current methodology worked well for surveying this species, and presently (2002), there are 67 transects spread throughout the Imperial Sand Dunes in order to institute long term monitoring of this species. The number of transects may increase depending of management needs in the future.

Management Action: On July 15, 2002, Greg Thomsen (Field Manager), Roxie Trost (Resources Branch Chief), Gavin Wright (Wildlife Biologist), Chris Knauf (Natural Resources Specialist), and Neil Hamada (Dunes Manager), discussed the results of this study. Since the initial study area was relatively small, it was decided that stratified sampling for trend data would be collected throughout the Imperial Sand Dunes Recreation Area in order to more closely evaluate *Uma notata* density throughout the dunes. Currently, 67 transects are spaced throughout the dunes (see map), that will be surveyed twice annually for the acquisition of trend data.

Management actions from the Draft Recreational Area Management Plan and Environmental Impact Statement have resulted in a proposed seasonal OHV closure on the Adaptive Management Area, in order to conserve reptile communities when they are most active. Furthermore, on July 12, 2002, the BLM

initiated discussion with the U.S Fish and Wildlife Service on how best to develop a cooperative agreement with regard to this unique species of lizard. This meeting included Roxie Trost (Resources Branch Chief), Gavin Wright (Wildlife Biologist), Chris Knauf (Natural Resources Specialist), and Sandy Vissman, (U.S Fish & Wildlife Biologist).